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ABSTRACT

This paper specifies the content of composition instruction, some of which can be incorporated into material to be presented by and practiced on a computer. It describes instructional outcomes within the context of an instructional model of the composing situation and discusses them under the following headings: (1) the composing problem, (2) setting goals, (3) generating ideas to write about, (4) arranging the information, (5) translating (the actual writing), (6) reviewing, and (7) feedback, such as peer critiquing, teacher comment, and formal assessment. An appendix describes important instructional techniques that can aid in the implementation of composition outcomes. (Author/FL)

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SPECIFICATIONS FOR COMPOSITION INSTRUCTION

Ann Humes

ABSTRACT

The content for composition instruction is specified. The instructional outcomes are described within the context of an instructional model of the composing situation and are discussed under the following headings: the composing problem, setting goals, generating, arranging, translating, reviewing, feedback. These specifications provide the framework for a complete program of composition instruction. An appendix describes important instructional techniques that can aid in the implementation of composition outcomes.

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SPECIFICATIONS FOR COMPOSITION INSTRUCTION

Ann Humes

Composition authorities have become increasingly concerned with instruction that focuses on the process rather than on the product of writing. Concomitantly, new approaches to teaching the composing process are being advocated. One such approach is the use of a computer to teach writing, the objective of a current project in composition.

This paper specifies composition instruction, some of which can be incorporated into material to be presented by and practiced on a computer. First it describes the instructional model of the composing situation that is the basis for SWRL's work in composition. This description includes an illustration of the interaction of the elements of the composing situation, including the composing process itself. The major part of this paper specifies outcomes that guide the teaching of the composing process. An Appendix covers specific instructional techniques.

INSTRUCTIONAL MODEL OF THE COMPOSING SITUATION

The instructional model of the composing situation draws extensively from a cognitive model developed by Flower and Hayes (1980; see Humes, 1980b, for a description of the Flower and Hayes model and for a complete discussion of the instructional model). The instructional model has three major units: the task environment, the composing process, and the long-term memory. The elements of the task environment are the problem, the text as it is produced, and feedback. The elements of the composing process consist of setting goals, generating, arranging, translating,

reviewing, and changing; these elements are recursive, and any components of the process may perpetrate recycling. Long-term memory stores the knowledge needed to solve the composing problem--operational knowledge of the composing process and knowledge of specific skills and strategies for composing discourse. Some of the necessary knowledge will already be part of the writer's long-term memory; the role of composition instruction is to provide the knowledge not yet acquired and the rehearsal/practice that can facilitate memory storage of that knowledge.

The model of the composing situation is displayed in Figure 1. The interaction of the three major units of the composing situation is also indicated in Figure 1. As is illustrated by the arrows in the displayed model, the elements of the problem constrain choices made during composing. The writer enters the process by a planning activity--either setting goals, generating content, or arranging content. These planning processes are influenced and limited by problem elements--by what purpose is to be accomplished, by what audience the discourse will have, by what the subject is, and by what image (persona) the writer intends to project.

The problem serves heuristically to draw on knowledge that is stored in the long-term memory about composing discourse to effectuate the problem considerations of purpose, audience, subject, and writer. The problem elements also influence and limit the encoding choices made during the process of translating content into graphic symbolization. During the reviewing process, the translated choices are examined to determine whether they are appropriate for solving the composing problem. Concomitantly, the existing text is changed so that it more nearly fits within the parameters

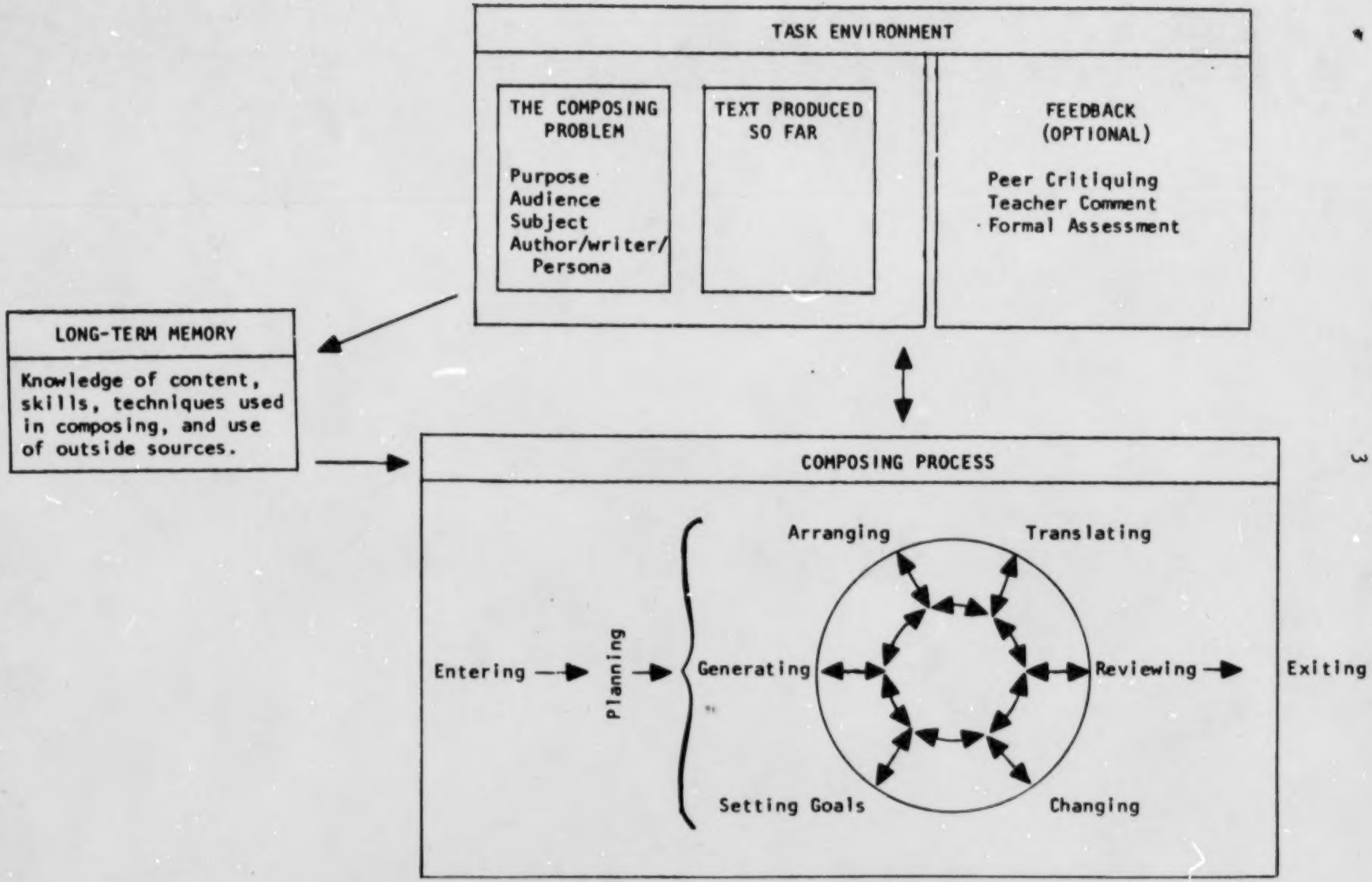

Figure 1. The Instructional Model of the Composing Situation

determined by problem considerations of purpose, audience, subject, and writer (persona), as well as by the conventions of written discourse.

In addition to being constrained by the problem, the writer is limited by the text produced so far because the content and arrangement of that text impose restrictions on the direction and range of the subsequent choices.

Composing ideally ends--the writer exits from the process--when the writer evaluates the text and is satisfied that it is correct and appropriate for purpose, audience, subject, and persona (writer). If the writer receives feedback on the text, he/she may then re-enter the process to incorporate the modifications suggested by feedback.

SPECIFICATIONS FOR COMPOSITION INSTRUCTION

The purpose of composition instruction is to (1) arrange ample opportunities for actual composing and (2) help students to write well. Correspondingly, composition instruction should provide the operational knowledge of the composing process and knowledge of the pertinent tactics and strategies relevant to composing. This knowledge is specified here, although the specifications may be amended or revised to accommodate subsequent information on the composing process and/or its teaching.

The specifications are written as instructional outcomes that must have been previously stored in the writer's long-term memory or must be put there by instruction and practice. Therefore, some facilitative instructional techniques, because they are means to outcomes rather than outcomes themselves, are described in the Appendix rather than in the specifications. For example, sentence combining is a technique that is purported to enhance syntactic fluency as well as, for example,

to improve punctuating, capitalizing, and arranging discourse; since sentence combining facilitates these outcomes (it is not an outcome itself--i.e., "Uses sentence combining" is not a goal of writing instruction), it is discussed in the Appendix.

The specifications are not grade leveled, so specific knowledge, skills, and techniques must be selected on the basis of the student's or group's experience and age. Neither do the specifications prescribe the types of complete discourses, or products, that students should write. A product type is determined by the specific problem to be solved by the writer. Thus products are incorporated into composition instruction at the lesson level rather than at the general specifications level described in this paper.

Outcomes are specified under the component or process for which they are most directly appropriate, although outcomes may overlap other elements of the composing process. Some of these outcomes are heuristics. Young, Becker, and Pike (1970) define heuristics:

> A heuristic procedure . . . provides a series of questions or operations that guides inquiry and increases the chances of discovering a workable solution. More specifically, it serves three functions:
>
> > (1) It aids the investigator in retrieving relevant information that he has stored in his mind. . . .
> >
> > (2) It draws attention to important information that the investigator does not possess but can acquire by direct observation, reading, experimentation, and so on.
> >
> > (3) It prepares the investigator's mind for the intuition of an ordering principle or hypothesis. (p. 120)

The form described for some of the heuristics may need to be revised before these heuristics can be employed by students who are at early or remedial levels of competence in composition. For many heuristic probes, some elements may not be applicable for all composing problems.

Specifications for these heuristics and for other outcomes are presented below. The presentation begins with one element of the task environment, the problem, because that element exists before composing begins. Then the specifications cover the elements of the composing process itself. The specifications end with another element of the task environment, feedback, because feedback is often given the writer only after he/she exits from the process.

The Problem

The problem is important because it stimulates composing--it is what writers must solve by composing. The elements of the problem are the purpose, the subject, the writer/author/persona, and the audience. The first outcome below pertains to the whole problem. The subsequent two outcomes address specific problem elements. The outcomes in this section are the following:

Use a heuristic probe to analyze the composing problem.

Select an appropriate subject when given a general topic.

Use a heuristic probe to analyze audience.

Specifications

Outcome

Use a heuristic probe to analyze the composing problem.

Outcome Description

Students use a set of questions that serve as a heuristic for analyzing the elements of the composing problem (i.e., purpose, subject, author, audience):

1. What is the purpose for composing? What do I wish to accomplish by composing?
2. What will I write about? What mode or form will that discourse have?
3. What kind of image of myself do I wish to give my readers?
4. Who is my audience? (See the audience outcome below.)

Irmscher (1969) suggests another set of questions for analyzing the composing problem. An amended and modified form

of the heuristic probe is presented below. This probe requires further detail before it can be implemented instructionally:

1. What kinds of questions can be asked about the reason for writing?
2. What kinds of questions can be asked about the subject?
3. What kinds of questions can be asked about the writer?
4. What kinds of questions can be asked about the reader/audience and their relation to the writer and the mode of the message? (p. 93)

Outcome

Select an appropriate subject when given a general topic.

Outcome Description

Students select an appropriate subject to write about when assigned a general topic. Criteria for determining appropriateness are (1) the subject of the assignment, (2) the purpose, (3) the audience, (4) the student, and (5) the time allowed.

The subject is appropriate to the general topic if it addresses a specific aspect of that topic. Thus, given the general topic "Homework," the student might write on "Why I do not like homework."

The subject is appropriate for the purpose when the purpose for composing on the general topic corresponds to that for writing on the specific topic--if both have as their purpose (1) self-expression, (2) persuasion, (3) information, or (4) manipulation of language for its own sake.*

*These purposes correspond to Kinneavy's aims of discourse; cf. footnote on page 18.

A subject appropriate for the audience can be addressed to the teacher, to fellow students, or to an audience outside the classroom. A topic appropriate for the writer (1) is within his/her experience or is one that he/she can obtain information about easily, and (2) is of interest to the student.

Appropriateness to the time allowed is frequently considered in relation to students' selecting topics that are too ambitious for the time they have to produce a finished product; however, this criterion is also applicable to those situations in which a student may select a topic that can be covered briefly and quickly when the time allowed is adequate for a library research project.

Outcome

Use a heuristic probe to analyze audience.

Outcome Description

Students use a heuristic probe to analyze audience. The audience probe below is a modification of one delineated by D'Angelo (1980); some questions may not be relevant for the specific composing problem:

1. What is the age of the readers?
2. What is their sex?
3. Where do they live?
4. What is their educational background?
5. What kinds of interests do they have?

6. What are their political beliefs?

7. What are their religious or philosophical beliefs?

8. What kinds of jobs do they hold? Are they students?

9. What kinds of leisure activities are they interested in?

10. Is there anything unusual about this particular audience?

Pfister (1980) also delineates a heuristic for analyzing the audience. The following is a modification of his heuristic procedure:

1. What is the physical, social, and economic status of the audience?

2. What is their educational and cultural experience?

3. What are their values?

4. How much does the audience know about the subject?

5. What is the opinion of the audience about the subject?

6. Why does the audience have this opinion?

7. What is the audience's knowledge and attitude about me?

8. What experiences, attitudes, and interests do we share?

Setting Goals

Goal-setting is the conceptualizing of individual en-route tactics for solving the composing problem. A number of such goals may be set during the development of each complete discourse. Goals may stimulate content generating, or goals themselves may be generated.

The specifications for instruction on this element of the process are exemplified only; they cannot be complete because it is impossible to describe all the specific goals that a writer might undertake. The first outcome describes a probe for the process of setting goals. Then specific goals are noted because knowledge of the goals must be stored in long-term memory before the writer can set and implement them. The following outcomes are described for setting goals:

PROCESS

Use a heuristic probe to set goals.

KNOWLEDGE

Understand description.
Understand comparison.
Understand contrast.
Understand definition and its components, classification and differentiation.
Understand example and illustration.
Understand anecdote.
Understand summary.
Understand analysis.
Understand cause and effect.
Understand setting.
Understand how to develop characters.

Specifications

PROCESS

Outcome

Use a heuristic probe to set goals.

Outcome Description

Students use a heuristic probe to set goals that guide composing. The following probe is revised from guidelines described by D'Angelo (1980):

1. Can it [the subject] be described?
2. Can it be divided into parts?
3. Can it be defined?
4. Can it be classified?
5. Can examples be given?
6. Can illustrations be given?
7. Can it be compared or contrasted with something else?
8. Can an anecdote be given?
9. Does it have causes and effects?

KNOWLEDGE

Outcome

Understand description.

Outcome Description

Students understand description and thus are able to use a description as one of the en-route tactics in developing discourse.

A description is an image or a set of images conveyed through language; the image conveyed is the writer's perception of an object. A description may be literary or scientific. In a literary description, a writer may convey an impression or mood as well as an image of that which is being described. In a scientific description, the writer conveys an image as objectively as possible.

Outcome

Understand comparison.

Outcome Description

Students understand comparison and thus are able to use a comparison as one of the en-route tactics in developing discourse.

A comparison focuses on the similarities between things. A comparison juxtaposes two entities or abstractions and points out their similarities. The comparison may be literal or figurative. Figurative comparisons include simile, metaphor[1], and analogy. An analogy can be described as an extended metaphor, although extended comparison may also be literal. For a description of these figurative comparisons, see the individual outcomes described for generating content. See also Humes and Cronnell (1977).

Outcome

Understand contrast.

Outcome Description

Students understand contrast and thus are able to use a contrast as one of the en-route tactics in developing discourse.

A contrast focuses on the differences between things. A contrast juxtaposes two entities or abstractions and points out their differences.

Outcome

Understand definition and its components, classification and differentiation.

Outcome Description

Students understand definition and thus are able to use a definition as one of the en-route tactics in developing discourse.

The term to be defined is stated, and its boundaries are set by associating it with a hierarchical class. Thus classification is a component of definition. When a writer classifies an object/entity/idea, he/she systematically arranges that object/entity/idea into a class based on shared features after first determining the basis for classification. This basis is the characteristic that all members of the group share. D'Angelo (1980) notes the following four rules of classification:

> There can be no classification unless the things to be classified are considered similar to each other in some respect. Only one principle of division may be applied at each level of classification. At each level, the classes must be mutually exclusive in scientific classification, the classes at each level must cover the whole field (p. 144).

After the object/entity/idea has been classified, it is differentiated. Differentiating characteristics are those features that make the object/entity/idea different from other members of the same classification.

A defintion may include synonyms for the term being defined as well as etymological information.

Definition can be used to explain elements of a discourse and to clarify arguments. Thus this method of development is characteristically used in referential and persuasive products.*

Outcome

Understand example and illustration.

Outcome Description

Students understand example and illustration and thus are able to use an example or illustration as one of the en-route tactics in developing discourse.

Examples/illustrations provide specific instances to support or to explain a more general assertion or statement.

Outcome

Understand anecdote.

Outcome Description

Students understand anecdote and thus are able to use an anecdote as one of the en-route tactics in developing discourse.

An anecdote is a short narrative detailing an episode or event. It may clarify a concept, support a point, or make discourse more interesting and colorful.

Outcome

Understand summary.

Outcome Description

Students understand summary and thus are able to use a summary as one of the en-route tactics in developing discourse.

---

*See footnote on page 18 for an explanation of Kinneavy's discourse types.

A summary includes the main ideas of a text, and thus appears frequently as the closing paragraph of an essay. For specific details of summarization, see the section on generating content, where writing a summary is discussed as a data-gathering outcome.

Outcome

Understand analysis.

Outcome Description

Students understand analysis and thus are able to use an analysis as one of the en-route tactics in developing discourse.

In an analysis, the writer divides a subject into its components and discusses those elements individually. An analysis also includes a discussion of the relationship of the component parts to the whole. Enumeration may be considered a kind of informal analysis (D'Angelo, 1980).

Outcome

Understand cause and effect.

Outcome Description

Students understand cause and effect and thus are able to develop cause and effect as one of the en-route tactics in developing discourse.

Outcome

Understand setting.

Outcome Description

Students understand and thus are able to use setting as one of the en-route tactics in developing discourse.

A setting is the background for the action of a narrative. The setting may consist of (1) the geographical location and the physical surroundings, (2) the daily manner of living of the characters (Holman, 1972), (3) the time period of the narrative, and (4) the socio-economic, intellectual, and moral environment of the character(s).

Outcome

Understand how to develop characters.

Outcome Description

Students understand how to develop characters for inclusion in a narrative.

Characters may be incorporated into a narrative by a number of techniques. The writer may (1) give a direct description of the appearance and personality traits of the character, (2) present the character in activities that enable the reader to infer the character's attributes, (3) reveal reactions to the character from other characters in the story, or (4) present the character's internal reactions to events, people, and surroundings.

Generating

Generating entails gathering information to write about, whether that information is material from external sources or is content discovered within the writer's mind. When data are not gathered from external sources, the writer must search his/her own mind for information. This search may involve the use of "invention" techniques--heuristic probes for generating content. These techniques are grouped into several content-discovering categories.

Some heuristics address the process of discovering content, so they are grouped together. Other probes focus on specific ways of thinking about a subject. These probes elicit content for specific modes of discourse. Kinneavy (1971) confirms this mode-thought correspondence when he states

> To each of the four modes of discourse there corresponds a principle of thought which permits reality to be considered in this way (p. 37).

Kinneavy adds that each of the modes has its own logic, as well as its "own organizational patterns, and, to some extent, its own stylistic characteristics" (p. 37). He calls these modes of discourse "descriptive," "narrative," "classificatory," and "evaluative."* According to Kinneavy, these modes correspond to the traditional categories originally labeled by Alexander Bain as "descriptive," "narrative," "expository," and "persuasive." Thus the probes below, as ways of thinking about a subject, are categorized as heuristics for descriptive, narrative, classificatory, and evaluative

*Kinneavy's modes of discourse are sometimes confused with his "aims" of discourse. His aims of discourse constitute a classification schema that parallels the communication triangle. Thus whole discourses (in contrast to parts of discourses, which may effectuate the incorporation of several modes of discourse into a single product) are classified as (1) expressive, when the aim (i.e., focus) is the writer him/herself, (2) persuasive, when the focus in on the audience, (3) referential, when the focus is on communicating a reality, and (4) literary, when the focus is on the discourse itself.

discourse (although some probes, or parts of probes, may be applicable to more than one discourse mode).

The following outcomes are included in this section:

DATA GATHERING

Use external sources to generate information.
Make notes on a subject.
Gather information for a bibliography.
Select information that constitutes the elements of a summary.
Use a matrix to generate content.

DATA DISCOVERING: PROCESS

Use freewriting.
Use brainstorming.
Use word associating.

DATA DISCOVERING: DISCOURSE MODES

Use a heuristic probe for descriptive discourse.
Use a heuristic probe for narrative discourse.
Use a heuristic probe for classificatory discourse.
Use a heuristic probe for evaluative discourse.

Some heuristics will generate more content than the writer will need for his/her discourse product. This excess content will be "deleted" during content arranging.

Specifications

DATA GATHERING

Outcome

Use external sources to generate information.

Outcome Description

Students use external sources to generate information for a composition. The sources may be reference works such as encyclopedias or dictionaries. They may also be books, magazines, and journals. Films, television, radio programs, and people knowledgeable about the topic may also serve as sources for content.

Outcome

Make notes on a subject.

Outcome Description

Given a subject, students select information on which to make preliminary notes in preparation for writing.

Notes are any form of written language that records ideas, facts, information. They may be single words, phrases, or sentences. Sometimes they are sentences stripped of their function words; e.g., "Lincoln was born in 1809." → "Lincoln born 1809." Although notes are not required to take a particular linguistic form, they are expected to include only critical facts and ideas.

During data gathering, students may use a reference source such as an encyclopedia; however, non-print media may also be used (e.g., films). In order to make notes on a reference source, students (1) must identify main ideas and details and (2) must recognize and select only those ideas/details that are relevant to the topic of the composition. Thus notetaking facilitates summary writing (see "Select information that constitutes the elements of a summary").

Notes may be taken on content that is "discovered" rather than gathered. However, instruction on notetaking is included here, although tactics learned may be applied by the students in "discovery" situations.

Outcome

Gather information for a bibliography.

Outcome Description

Students gather information for a bibliography of the sources used in preparing a composition. Textbooks, teachers, and style manuals vary in the information that must be gathered for a bibliography. The critical information includes the author's name, the title of the referenced work, the date of publication, and the publisher (for books) or the publication (for articles).

Outcome

Select information that constitutes the elements of a summary.

Outcome Description

Students summarize data from external sources (e.g., an encyclopedia) while gathering content for a complete discourse. A summary (1) includes all of the main ideas of the summarized text, (2) presents the main ideas in the same order as they are presented in the text, (3) includes only main points and omits supporting statements and explanations (Humes et al., forthcoming d).

In order to construct a summary, students must be able to (1) identify the main topics in paragraphs of connected text (see Fiege-Kollmann, 1979) and (2) paraphrase main ideas.

A summary may be constructed from the writer's text rather than from other external sources. However, instruction on selecting information for a summary is included here. Specific kinds of "summaries" that can be constructed from the writer's text are also included for instruction here. They are titles, topic sentences, and beginning sentences.

Titles need to be descriptive of the piece of writing; they give the general idea of what the writer is saying in the composition. They should be no broader than the topic (e.g., not "Fish" when the topic is "Trout"), nor should they be only a part of the topic (e.g., "The Inside of a Pencil Sharpener" for a composition on how a pencil sharpener works). They should be precise, not vague (e.g., not "How a Machine Works" for the pencil sharpener composition); they should relate to the topic (e.g., not "How to Catch Fish" when the composition is a description of a trout).

A topic or "top" (Christensen, 1968 and 1978) sentence for a paragraph states the main idea of the paragraph. Other sentences in the paragraph elaborate on that single sentence; they can be subsumed under that sentence, given an outline form of the paragraph. Thus the scope of the sentence is broad enough to encompass all supporting sentences/ideas, yet specific enough to limit the paragraph to one main idea. Topic sentences are probably most common in evaluative and classificatory writing, less common in narrative and descriptive writing.

Although topic-sentence use is common in much writing instruction, its actual value is in doubt. In "real world" writing (e.g., by professional writers), topic sentences actually appear to be uncommon (Braddock, 1974). Thus this skill may be excluded from composition instruction at the discretion of the developer or instructor.

A beginning sentence for a paragraph need not be a topic sentence, but it must address the reader in a manner that suggests the communication of subsequent information. Inclusion of a beginning/introductory sentence usually makes the paragraph easier to read and understand, and it can enhance the interest and style of the paragraph. This skill may be excluded from composition instruction at the discretion of the developer or the instructor.

Outcome

Use a matrix to generate content.

Outcome Description

Students use a matrix to generate content for a composition. A matrix is a physical paradigm that can be used to generate content by focusing on facts that can fit into the cells that occur at the intersections of the horizontal and vertical categories of a topic. For example, Jones and Hall (1979) illustrate a matrix that can generate content for comparison/contrast essays. Their comparison/contrast matrix is displayed in Figure 2.

McKenzie (1979) describes a matrix that

> . . . focuses upon the skills of abstracting question-relevant information from a source, of organizing the abstracts for easy comparison, of comparing and synthesizing discrete facts from different sources into coherent general statements, and of subordinating different kinds of elaborative or qualifying material . . ., (p. 56)

Thus matrices can be used for generating content from both external sources and the writer's mind. Correspondingly, McKenzie

Topic Categories	Name Categories			
	Black Magic	Druid		
Worship	Fact 1a			
Began	Fact 2a	Middle Ages		
	Fact 3a			
	Fact 4a			

Figure 2. Jones' and Hall's (1979) Matrix Technique for Generating Content for Comparison/Contrast Essays

claims that this technique entails teaching children to record notes from several sources onto a worksheet called a data chart. Figure 3 displays this matrix-type work sheet.

	What is an igloo?	How are igloos furnished?
Seasons of the Eskimo Bremmer, Fred		
"Igloo" *World Book Encyclopedia*		
An Eskimo Family Silver-Burdett Company		
Summary		

Figure 3. Data Chart (Mckenzie, 1979, p.785)

A more complete and complex data chart can be employed when students become more sophisticated in their use of this technique. It is displayed in Figure 4. This data chart allows for possible predictions on the basis of gathered information.

Culture Study Comparison Chart
(Name of Culture)

	Housing	Food	Clothing	Transportation	Religion	Government
Source						
Predict						

Figure 4. Complex Data Chart (McKenzie, 1979, p. 788)

DATA DISCOVERING: PROCESS

Outcome

Use freewriting.

Outcome Description

Students use freewriting to discover content for discourse.[2]

Freewriting is a technique used to discover and explore ideas that may be used in formal compositions. It is described extensively by Elbow (1973). The writer begins translating, usually motivated by a specific stimulus, and lets his/her discourse proceed randomly so long as composing does not stop. If a block occurs, the writer repeats the last word until the block is overcome, or he/she writes, "I can't think of anything to say" and then questions on paper why he/she can't generate content.

The writing proceeds without concern for the amenities of written discourse (e.g., mechanics, spelling, complete sentences). Correspondingly, freewriting should not be evaluated by the teacher. Freewriting is frequently performed in a journal that students keep to record thoughts, feelings, emotions, ideas, and daily observations. Journal content then becomes resource material for use during composing.

Outcome

Use brainstorming.

Outcome Description

Students use brainstorming to discover content for discourse.

"Brainstorming" is writing down any and all ideas that a writer has on a topic. The topic may be assigned by the teacher, or may be one generated by a group. Brainstorming can be an individual, a group, or a whole-class activity.

Outcome

Use word associating.

Outcome Description

Students generate and record words that are elicited, that are retrieved from memory storage, by the presence of an object or by the name of an object, idea, or event. Associated words are written down during a one-to-five-minute period. During that time, the student generates all the possible words he/she

can associate with the target object, idea, or event. (This is a prerequisite activity for clustering; see the section on arranging content.)

The range of word associations may be limited to a specific type of associating prescribed by an instructor or by the writer him/herself. For example, associations may be restricted to the uses of a particular object; this is a content restriction. Another kind of limitation may be "grammatical"--the student may elicit only adjectives that describe the object in relation to the sensory experiences the object evokes (e.g., sensory words that evoke visual and tactile images).

DATA DISCOVERING: DISCOURSE MODES

Outcome

Use a heuristic probe for descriptive discourse.

Outcome Description

Students use a heuristic probe to generate content for descriptive discourse. The content generated should consist of the following types of attributes:

1. Unique attributes--attributes that distinguish the entity, object, sensory experience (e./o./s.e.), from any other e./o./s.e. This attribute type involves a differentiating process: The e./o./s.e. is identified as different from the rest of the classification by this uniqueness (e.g., a dachshund's body shape is unique; thus the attribute differentiates it from other dogs in the class of dogs).

2. Salient attributes--attributes that would immediately catch the eye of the viewer

because of their "visibility" (e.g., a person's hair color is a salient attribute in a contrast, for example, to his/her index finger). This attribute type is more important to "realistic" description, the purpose of which is to convey an objective picture; it is less important to artistic description, the purpose of which is to recreate the author's subjective impression of the e./o./s.e.

3. Evocative attributes--attributes that stimulate memories of a familiar sensory experience. This attribute type entails a kind of classification process: The e./o./s.e. is placed in a particular class so that a particular attribute is associated with it (e.g., the sharp edge of an e./o./s.e. is evoked by classifying it with knives). This attribute may sometimes occur in a simile structure.

The heuristic below can be used to generate content for descriptive discourse.

1. What does it look like?
2. What does it smell like?
3. What does it sound like?
4. What does it feel like?
5. What does it taste like?

D'Angelo (1980) propounds this probe for descriptive discourse:

1. What are its constituent parts?
2. What are its features or physical characteristics?
3. How is it organized in space? (p. 44)

The following set of questions can also be used to generate content for a description. Some or all of the questions may be used, depending upon the nature of the e./o./s.e. being described. The heuristic is a revised form of the probe

suggested by Corder (1979). Since it is long, it may be divided into sets of related questions:

1. What does it look like?
2. How is it different from things that look like it?
3. How much can it be changed and still be the same thing?
4. Is it like other objects you have seen earlier in your life? How?
5. From what points of view can it be described?
6. What is its structure?
7. How do its parts work together?
8. How are its parts put together?
9. How big or little are the parts in relation to each other?
10. To what class or order of things does it belong?
11. Who or what produced it in this form? Why?
12. Who needs it?
13. Who uses it? For what?
14. What purposes can it serve?

One frequently cited heuristic that generates descriptive content is the particle-wave-field probe (Pike, 1959; Young, Becker, and Pike, 1970). In viewing an experience in relation to the particle-wave-field theory, the e./o./s.e. is seen as static, as dynamic, and as a network of relationships. Thus as a particle, an e./o./s.e. is viewed as a discrete entity; as a wave, the same e./o./s.e. is discussed from the point of view of a process--how it changes over time; as a part of a field,

it is seen as a system--how it compares with others of its hierarchical classification.

A simplified heuristic corresponding to the particle-wave-field probe is listed below:

1. What is this thing?
2. How has it changed over time?
3. In what way it is like or unlike something else of its class?

More complex versions of the probe are both promulgated and praised in the literature. However, few use these complex versions, according to Kneupper (1980), because they are confusing.[3]

In addition to general heuristics for descriptive discourse, students can employ heuristics for specific goals of descriptive discourse. Two goals that may be implemented through descriptive discourse are comparison and contrast. The following probe (D'Angelo, 1980) is appropriate for generating content for the comparison/contrast of an e./o./s.e. to other e./o./s.e.'s:

1. What is it like?
2. How is it similar to other things?
3. How does it differ from other things? (p. 45)

The following probe may be used to generate content for comparing/contrasting two e./o./s.e.'s:

1. In what ways are they alike? [appearance, odor, . . .]
2. In what ways are they different?
3. How are they related to each other?

Corder (1979) delineates an extensive probe for comparing/contrasting more than two e./o./s.e.'s. The probe has been modified and is presented below. Some or all of the questions may be used, depending upon the object of the comparison/contrast:

1. What exactly do they [the e./o./s.e.'s] have in common?
2. How are they related to each other?
3. How can they be grouped?
4. How can they be divided?

Figurative comparisons also generate content for descriptive discourse. For example, students can construct similes, metaphors, and analogies (which are extended metaphors)[4] that compare disparate entities or concepts. Figurative comparisons clarify the concept of enhance the description of the entity. object, or sensory experience.

Although a literal comparison juxtaposes entities that are generally equivalent on the basis of classification (e.g., dogs and cats are both animals), a figurative comparison juxtaposes two essentially unlike entities: A figurative comparison is contrived to suggest that the two disparate entities being compared share a single attribute that makes them strikingly alike in one way.[5]

The following probe is also appropriate for another specific goal--analysis--that is implemented through content for descriptive discourse when a concrete object is analyzed; the probe is modified from D'Angelo (1980):

1. What are its [the object's] pieces or parts?
2. How may they be grouped?
3. How do they appear in space?
4. What are their exact numbers?

Outcome

Use a heuristic probe for narrative discourse.

Outcome Description

Students use a heuristic probe to generate content for narrative discourse. Narrative content is generated for writing an account of true or fictional events.

The events students generate for straightline (i.e., order of occurrence) accounts must be those that are the most significant to include in an account of a specified length (i.e., racing to catch the bus for school has more significance to a narrative account about one day in a student's life than does the tying of a shoelace). The events students generate for a climactic (i.e., order that builds to a climax) account must be ones that (1) can be organized to develop a problem and a resolution/solution to this problem or (2) help develop characters in the narrative.

A simple heuristic probe for generating narrative content is presented below:

1. What happened first?
2. What happened next? Next? . . ..
3. What happened last?
4. When did it happen?
5. Where did it happen?
6. Who did it happen to?

The following questions the writer may ask him/herself are adapted from Corder (1979) and revised for specificity and simplification. Some or all of the questions may be used, depending upon the type of narrative that is being constructed:

1. Exactly what happened?
2. What was the setting in which the event occurred?
3. What caused it?
4. What did it cause?
5. What does its happening imply? What action (if any) is called for?
6. Who was affected by it?
7. To what other events was it connected?

Burke's (1975) Pentad is often cited as a probe applicable to generating narrative content. Calling his technique the "dramatistic" method, Burke explains that in this probe the writer must generate some word "that names the act (names what took place, in thought and deed), and another that names the scene (the background of the act, the situation in which it occurred) . . . [and] must indicate what person or kind of person (agent) performed the act, what means of instruments he used (agency), and the purpose" (p. 155).

Burke (1975) exemplifies the use of the Pentad to construct narrative discourse:

> . . . imagine that one were to manipulate the terms, for the imputing of motives, in such a case as this: The hero (agent) with the help of a friend (co-agent) outwits the villain (counter-agent) by using a file (agency) that enables him to break his bonds (act) in order to escape (purpose) from the room where he has been confined (scene) (p. 160).

Some forms of the Pentad are simple, as is the following set of questions:

1. Who did it?
2. By what means?
3. What exactly was done?
4. Why was it done?
5. Where (in time and place) was it done?

This set can be abbreviated into a probe that corresponds to the set of questions journalists often use: who, what, when, where, how, and why (Young, Becker, and Pike, 1970, p. 121).

Another variation is proposed by Irmscher (1979):

1. Action -- What is happening?
2. Agent -- Who is doing it?
3. Agency -- How is it being done?
4. Scene -- Where and when?
5. Purpose -- Why? (pp. 90-91).

Outcome

Use a heuristic probe for classificatory discourse.

Outcome Description

Students use a heuristic probe to generate content for classificatory discourse.

The grammar-of-coherence probe (Winterowd, 1975), frequently cited in the literature, facilitates generating classificatory content. The coherence relationships within discourse, according to Winterowd, are (1) coordinate, (2) obversative, (3) causative, (4) conclusive, (5) alternative, (6) inclusive, and (7) sequential. A heuristic of questions corresponding to these relationships is proffered by Nold (1979):

> (1) With what other items is my subject coordinate?
>
> (2) What are the opposites of my subject?
>
> (3) What causes my subject; what does it cause?
>
> (4) What conclusions are drawn regarding my subject?
>
> (5) What are the alternatives to my subject?
>
> (6) What includes my subject; what does my subject include?
>
> (7) What chronological sequences are associated with my subject? (p. 108)

Another heuristic corresponding to Winterowd's grammar of coherence is delineated by Corder (1979). A modified version of his probe is presented below:

1. What can be linked to the subject by and?
2. What can be linked to the subject by but?
3. What can be linked to the subject by for?
4. What can be linked to the subject by so?
5. What can be linked to the subject by or?
6. What can be linked to the subject by a colon?

Another frequently cited probe that can be used to generate classificatory content is TRIPSQA. TRIPSQA is an acronym for these parts of a paragraph or a composition:

T--Topic
R--Restriction
I--Illustration
P--Problem
S--Solution
Q--Question
A--Answer

The simplest form of this heuristic device is described by Young and Becker (1975) as TRI. Winterowd (1975) translates these elements into a sentence heuristic of important operations and illustrates its implementation:

> Write a topic sentence.
> As one ages, one learns that all vices are pleasant.
>
> Restrict it.
> But most vices are unhealthy.
>
> Illustrate.
> Smoking causes cancer.
> Drinking causes cirrhosis.
> Even the caffeine in coffee has been found to increase the process of aging. (p. 44)

The TRI pattern may be reversed (i.e., IRT) or the elements doubled (e.g., TIRI, TRIT). The PSQA elements may also be repatterned.

In addition to general heuristics for classificatory discourse, students can employ heuristics for specific goals of classificatory discourse. One such goal implemented through classificatory discourse is definition. The following probe for generating appropriate classificatory content is adapted from D'Angelo (1980):

1. What are this thing's limits or boundaries?
2. What class does it belong to?
3. What does it have in common with its class?
4. What is its etymology?

Another specific goal implemented through classificatory discourse is cause and effect. The probe below generates appropriate classificatory content:

1. Why did it happen?
2. What are its causes?
3. What are its effects?
4. What is its purpose?
5. How is it related causally to something else?
(D'Angelo, 1980, p. 45)

The following probe is also appropriate for a specific goal--analysis--that is implemented through classificatory discourse when an abstraction rather than a physical object (see descriptive discourse) is analyzed; the probe is modified from D'Angelo (1980):

1. What are its sections?
2. How may they logically be divided?
3. What is their relationship to each other?

The comparison/contrast probes specified for descriptive discourse may be modified and included here as heuristics for generating comparison/contrast content when these specific goals pertain to concepts (e.g., compare democracy and communism) rather than entities, objects, or sensory experiences.

Outcome

Use a heuristic probe for evaluative discourse.

Outcome Description

Students use a heuristic probe to generate content for evaluative discourse.

The probe below addresses three important elements of evaluative discourse: a point of view, arguments for a point of view, and supporting evidence for the arguments:*

1. What opinion can a person have about this issue/subject?
2. Which is my opinion?
3. What arguments can be used to support my opinion? What arguments can be used against my opinion?
4. What evidence is there for my arguments?
5. What evidence is there for the arguments against my opinion? What should I include? What should I leave out?

*Supporting evidence may be developed through content for other discourse modes.

The following probe, adapted from Corder (1979), is also designed to generate evaluative-discourse content for a composition. Some or all of the questions may be used, depending upon their relevance to the subject:

1. What must be established for the reader before he will believe it [the argument/the opinion]?
2. How can the argument/opinion be illustrated?
3. What kinds of evidence will support the argument/opinion?
4. What can be said in opposition to it?
5. Is it true or false? How do you know--from observation, authority, statistics, other sources?
6. Why might someone not believe it?
7. Does the opinion/argument take anything for granted?
8. Must some action be taken as a result of accepting it?

TRIPSQA (see the outcome for classificatory discourse) may also be used to generate content for evaluative discourse.

Arranging

Arranging is ordering content; it contributes form to a final product. Arranging may involve "deletion" of content when more content is generated than is needed for the specific purpose and/or arrangement.

Little literature is available on the process of arranging whole discourses, but considerably more information is available on the disputed topic of designing individual paragraphs. Another controversy concerns the use of formal outlines. Studies have shown that students don't outline (e.g., Emig, 1971). In fact, Stallard (1976) asserts that students who outline their topic "usually write underdeveloped papers and end up not saying what they instinctively feel they might have said" (p. 182). Because of this negative attitude in the literature, instruction on formal outlining is not explicitly specified. However, the broad arrangement plans that are included in the specifications here can function as informal outlines.

The specifications below first address the process of arranging and then describe specific arrangements that facilitate the arranging process when they are stored in the writer's long-term memory. The arrangements are further divided by their correspondence to discourse modes* and by arrangements that are unique formats.

The specific outcomes included in this section are the following:

PROCESS

Arrange content into clusters of related ideas and order content by clusters.

*See p. 18 for the distinction between Kinneavy's discourse aims and discourse modes.

ARRANGEMENTS: DISCOURSE MODES

Arrange descriptive content.
Arrange narrative content.
Arrange classificatory content.
Arrange evaluative content.

ARRANGEMENTS: FORMATS

Arrange the parts of a letter.
Arrange information for a bibliography.

Specifications

PROCESS

Outcome

Arrange content into clusters of related ideas and order content by clusters.

Outcome Description

Students arrange content generated in the form of words, phrases, sentences, or ideas into clusters of related content. This arranging may entail circling groups of related content or drawing arrows from one content expression to another, as in Figure 5 below (Rico, n.d.):

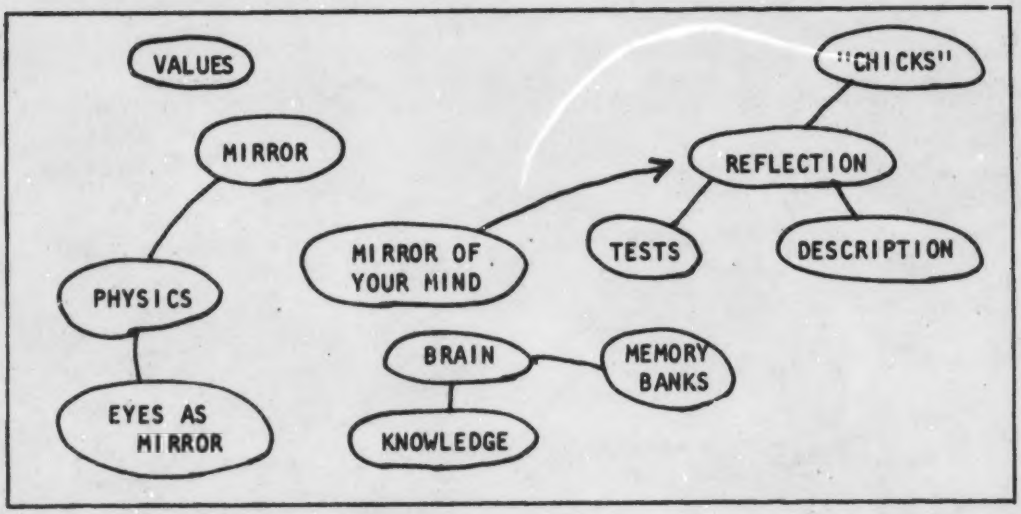

Figure 5. Clustering of Content (Rico, n.d., p. 87)

If content is recorded on separate cards or papers, the clustering will involve grouping the pieces of paper.

After students group the related ideas into clusters of related content, they then determine a presentation order for the various clusters of content. The presentation order should be one that is appropriate for the mode of discourse to be produced and the composing problem to be solved.

ARRANGEMENTS: DISCOURSE MODES

Outcome

Arrange descriptive content.

Outcome Description

Students arrange content to describe an entity, object, or sensory experience (e./o./s.e.). The arrangement principle is based on the way the e./o./s.e. is perceived in space; thus the arrangement is generally ordered on spatial principles. The writer selects a point from which the description can begin and then delineates the salient features of the entity or object in that directional order.

Description may begin with an outstanding feature and then proceed to features surrounding that feature. Thus in describing a room, for example, students may start at one side and move around it; in describing an object, they might move from top to bottom, bottom to top, side to side, from inside to outside. In describing a landscape, they might work from near to far or from far to near.

Noted below are some modifications of "paradigms" (D'Angelo, 1980) for arranging content on spatial principles:

Paradigm 1: Vertical Order (bottom to top; top to bottom)

Paradigm 2: Horizontal Order (left to right; right to left)

Paradigm 3: Depth Order (inside to outside; outside to inside)

Paradigm 4: Circular Order (clockwise; counterclockwise)

Some specific goals are implemented by arranging descriptive content according to precisely defined paradigms. To present comparisons and contrasts, the writer arranges content by similarities and differences. Differences/contrasts can be arranged in two ways.

Alternating contrasts: The identification of a characteristic/feature of one of the elements being contrasted is followed immediately by the parallel characteristic in the other element (e.g., A bicycle has two wheels, but a tricycle has three wheels).

The following paradigm depicts an alternating arrangement.

1. Introduction (includes thesis, sets up content)

2. Characteristic 1
   Subject 1
   Subject 2

3. Characteristic 2
   Subject 1
   Subject 2

4. Characteristic 3
   Subject 1
   Subject 2

5. Characteristic 4 . . .
   Subject 1
   Subject 2

6. Conclusion (summary, return to beginning)
   (D'Angelo, 1980, p. 180)

Block contrasts: The characteristics/features of one element being contrasted are all identified; then the parallel characteristics for the other element are identified (e.g., The bike has two wheels, is painted red, and has a leather seat. The tricycle has three wheels, is painted blue, and has a metal seat).

The paradigm for arranging content by alternation is presented below:

1. Introduction (includes thesis, sets up contrast)

2. Subject 1
   Characteristic 1
   Characteristic 2
   Characteristic 3
   Characteristic 4 . . .

3. Subject 2
   Characteristic 1
   Characteristic 2
   Characteristic 3
   Characteristic 4 . . .

4. Conclusion (summary, return to beginning)
   (D'Angelo, 1980, p. 179)

Comparisons can be ordered by the following methods:*

1. Alternating comparison: See alternating contrast above.

2. Block comparison: See block contrast above.

*Simultaneous comparison (e.g., The bicycle and the tricycle are both red) is sometimes suggested; however, this plan appears to be merely a syntactic variation of alternating comparison.

Analysis of an object, for which a physical object is divided into its components, is another specific goal that involves arranging descriptive content according to precisely defined paradigms. Presented below are three paradigms:

A. 1. Presentation of a whole which consists of X parts (for example here, 4 parts)

2. The first part

3. The second part

4. The third part

5. The fourth/last part

6. Conclusion

(Irmscher, 1969, p. 82)

B. 1. Introduction (includes thesis)

2. Characteristic 1 (or part 1)

3. Characteristic 2 (or part 2)

4. Characteristic 3 (or part 3)

5. Characteristic 4 (or part 4)

6. Characteristic 5, 6, 7 (or part 5, 6, 7) . . .

7. Conclusion (summary, return to beginning)

(D'Angelo, 1980, p. 104)

C. 1. Introduction (includes thesis)

2. Cluster of features

3. Cluster of features

4. Cluster of features

5. Cluster of features

6. Cluster of features

7. Conclusion (comment, summary, etc.)

(D'Angelo, 1980, p. 104)

Outcome

Arrange narrative content.

Outcome Description

Students arrange narrative content in chronological order. Chronological order is used in arranging content for straightline and climactic accounts.

The content of straightline and climactic accounts* is organized in the order of occurrence (although "flashback" ordering of whole chronologically arranged incidents may occur in climactic accounts). For example, the account of a child's attending a party would be arranged according to (1) arrival at the party, (2) the party activities, (3) departure from the party.

The arrangement paradigm below is appropriate for both a straightline narrative and for an account of an event:

1. Introduction (time, place, persons, beginning of action)
2. Event 1 . . . [or incident 1]
3. Event 2 . . . [or incident 2]
4. Event 3 . . . [or incident 3]
5. Events 4, 5, 6 [or incidents 4, 5, 6]
6. Conclusion

(D'Angelo, 1980, p. 200)

*Some accounts of events, depending on "aim," may be arranged by order of importance; see "Arrange classificatory content."

A similar paradigm for arranging the steps of a "how-to" account of a process is presented below:

1. Introduction (thesis)
2. Step 1 (phase 1) . . .
3. Step 2 (phase 2) . . .
4. Step 3 (phase 3) . . .
5. Step 4 (phase 4) . . .
6. Step 5, 6, 7 (phase 5, 6, 7) . . .
7. Conclusion (summary and so forth)

(D'Angelo, 1980, p. 217)

The following paradigm describes an arrangement for climactic account:

1. Introduction
2. Initial incident
3. Rising action
4. Suspense (foreshadowing, withholding information, surprise, and so forth)
5. Turning point
6. Falling action
7. Climax
8. Conclusion

(D'Angelo, 1980, p. 200)

Outcome

Arrange classificatory content.

Outcome Description

Students arrange classificatory content by the most logical order for presentation to readers.

One logical arrangement is an ordering of content by a general statement and supporting details, as in a definition, an explanation, or an example. Paradigms for arranging content by statement/support are presented below:

A. 1. Introduction (includes sentence definition)
   2. Supporting details
   3. Supporting details
   4. Supporting details
   5. Supporting details
   6. Conclusion (summary or restatement)
   (D'Angelo, 1980, p. 167)

B. 1. Assertion 1
   2. Supporting details/examples
   3. Assertion 2
   4. Supporting details/examples
   5. Assertion 3
   6. Supporting details/examples
   (Irmscher, 1969, p. 83)

C. 1. Introduction (includes the generalization)

2. Example 1

3. Example 2

4. Example 3

5. Example 4

6. Example 5, 6, 7 . . .

7. Conclusion

(D'Angelo, 1980, p. 155)

Classificatory content may also be arranged by order of importance. The arrangement can correspond to either decreasing or increasing importance, but it must be consistent.

For order-of-increasing importance, the most important material is presented first and is followed by information of decreasing importance. Although an order-of-decreasing-importance presentation helps ensure that the writer's audience will read what is most important even if that audience does not read the entire piece, its use does risk loss of audience interest.

Order-of-increasing importance entails the sequencing of elements from least to most important information. The advantage of this ordering is that it tends to sustain audience interest.

TRIPSQA may also be used to arrange classificatory content. This acronym represents the content elements of topic, restriction, illustration, problem, solution, questions, answer. For a discussion of TRIPSQA, see the Generating outcome, "Use a heuristic probe for classificatory discourse."

Specific goals that are implemented by arranging classificatory content have precisely defined paradigms. To present causes and effects students arrange content by cause-to-effect, which parallels a forward sequence in time, or by effect-to-cause, which reflects a backward sequence in time.

Paradigms for arranging classificatory content by cause-to-effect order are presented below:

A. 1. Introduction (includes thesis)
   2. Cause 1 . . .
   3. Cause 2 . . .
   4. Cause 3 . . .
   5. Cause 4, 5, 6 . . .
   6. Effect . . .
   7. Conclusion (summary and so forth)
   (D'Angelo, 1980, pp. 230-231)

B. 1. Introduction (includes thesis)
   2. Cause . . .
   3. Effect 1 . . .
   4. Effect 2 . . .
   5. Effect 3 . . .
   6. Effect 4, 5, 6 . . .
   7. Conclusion (summary and so forth)
   (D'Angelo, 1980, p. 231)

C. 1. Introduction
   2. Cause 1
   3. Effect 1
   4. Cause 2

5. Effect 2
6. Cause 3
7. Effect 3
8. Cause 4
9. Effect 4
10. Conclusion

To arrange content in effect-to-cause order, the above paradigms are reversed, with "cause" replacing "effect" and vice versa.

For a paradigm for arranging classificatory content for the specific goal of writing an analysis of an abstraction, see the paradigm for an analysis of an object, described under "Arrange descriptive content."

Outcome

Arrange evaluative content.

Outcome Description

Students arrange evaluative content in an order that can most successfully present their opinions.

Evaluative content is frequently arranged in inductive or deductive order. For an inductive arrangement, content is ordered from the particular to the general. Thus the general is a logical conclusion on the basis of the particulars of content presented in stating a case.

Paradigms for arranging content inductively are presented below:

A. 1. Fact/feature/detail/reason 1
   2. Fact/feature/detail/reason 2
   3. Fact/feature/detail/reason 3
   4. Conclusion (includes call for action)

B. 1. Argument 1
   2. Support for Argument 1
   3. Argument 2
   4. Support for Argument 2
   5. Argument 3
   6. Support for Argument 3
   7. Conclusion (includes call for action)

For a deductive arrangement, content is ordered from the general to the particular. Thus the general is supported by the particulars of content. Paradigms for arranging content deductively are presented below:

A. 1. Introduction (includes position to be supported)
   2. Fact/feature/detail/reason 1
   3. Fact/feature/detail/reason 2
   4. Fact/feature/detail/reason 3
   5. Conclusion (includes call for action)

B. 1. Introduction (includes position to be supported)
   2. Argument 1
   3. Support for Argument 1
   4. Argument 2
   5. Support for Argument 2

6. Argument 3
7. Support for Argument 3
8. Conclusion (includes call for action)

Evaluative content may also be arranged by pro and con arguments. The arguments may be arranged by presenting a reason for/against and then a reason against/for each argument or by presenting all reasons for/against and then all reasons against/for. Paradigms for pro and con arrangements are presented below:

A. 1. Introduction (includes thesis)
2. Pro (for)
3. Con (against)
4. Pro (for)
5. Con (against)
6. Pro (for)
7. Con (against)
8. Pro (for)
9. Con (against)
10. Conclusion

(D'Angelo, 1980, p. 271)

B. 1. Introduction (includes thesis)
2. Reasons for or against
3. Reasons against or for
4. Conclusion

A frequently discussed arrangement for evaluative content is the classic Aristotelian plan for presenting a complete argument. The paradigm for the Aristotelian arrangement is presented below:

1. Opening (to get attention, interest, and/or sympathy)
2. Presentation of case (problem, subject)
3. Summary of parts of case (arguments) on which there is likely to be agreement and on which there is likely to be disagreement, and an outline of argument to be presented
4. Presentation of argument in detail
5. Refutation of other side of argument in detail
6. Amplification of the argument
7. Summary of the argument

(Winterowd, 1975, p. 194).

Descriptive-discourse paradigms that may be used for arranging evaluative content are those described for comparison/contrast. Relevant classificatory-discourse paradigms are (1) general statement and supporting details, (2) order of importance, (3) TRIPSQA, and (4) cause and effect.

ARRANGEMENTS: FORMATS

Outcome

Arrange the parts of a letter.

Outcome Description

Students arrange the heading, greeting, complimentary closing, and signature of a letter. The heading of a personal includes the month, day, and year in which the letter was written, and it is placed at the top right-hand corner of the letter. The heading may also include the return address. The greeting includes Dear and the addressee's name. It is located several lines below the date, at the left margin. The complimentary

closing for the personal letter is found two lines under the body of the letter in the lower right corner, aligned with the date. The complimentary closing is generally informal; e.g., Your friend, Love, With love. The signature is the sender's name, and it is located two lines directly under the complimentary closing.

The heading of a business letter includes the sender's address and the month, day, and year in which the letter is written. The heading is located in the upper right-hand corner of the letter. The inside address is the name and address of the person and/or institution to whom the letter is being sent. It is placed at the left margin, several lines below the date on the right. The greeting of the business letter is located two lines below the inside address. The complimentary closing of the business letter is found two lines under the body of the letter, aligned with the date. The signature is the sender's handwritten name; it is located two lines below the complimentary closing, and is followed by the printed name.

Outcome

Arrange information for a bibliography.

Outcome Description

Students arrange information for a bibliography of the sources used in preparing a composition. Textbooks, teachers, and style manuals vary in their standards for the specific arrangment, with most requiring the author's name presented first, followed by title of publication and date.

Bibliographic information is sometimes contained in footnotes; these footnotes are covered by this outcome.

Translating

Translating is "essentially the process of putting ideas into visible language" (Flower and Hayes, 1980, p. 11); it is the process of transforming content from one form of symbolization (thought) into another form of symbolization (graphic representation).

Translating while simultaneously functioning in other elements of the process makes huge demands on the writer's cognitive processes (Scardamalia, in Bereiter, 1979). This mental load becomes less difficult as an increasing number of translating skills become automatic rather than consciously driven. This move to "automation" is expedited by instruction and practice.

The outcomes below are grouped into categories of translating for language, coherence, and form. The specific outcomes in this section are the following:

LANGUAGE

Use synonyms and antonyms.
Use specific terms.
Use sensory terms.
Use connotative language.
Use appropriate formal/informal language.
Use terms that convey emotions.
Use figures of speech.
Use sound devices.

COHERENCE

Use a consistent point of view.
Use coherence devices.

FORM

Use a variety of sentence structures and lengths.
Use correct grammar.
Use correct capitalization.
Use correct punctuation.
Use correct spelling.
Use manuscript and/or cursive form.
Use margins and indent first word of paragraphs.

Specifications

LANGUAGE

Outcome

Use synonyms and antonyms.

Outcome Description

Students use a synonym (a word with the same or similar meaning) or an antonym (a word with an opposite meaning) in translating discourse to (1) prevent excessive and non-purposeful repetition, (2) avoid common hackneyed words, and (3) effectuate precision in word use.

Outcome

Use specific terms.

Outcome Description

Students use specific terms to convey factual information or to describe an object, entity, or sensory experience. The language involved may consist of a single word (e.g., lemonade rather than drink) or entail longer phrases or clauses that constitute the major part of an entire sentence. For example, a sentence beginning with "After you use a pencil sharpener, your pencil _____" should be completed with the precise verb phrase "will have a fine point for writing" rather than the vague "looks nice" verb phrase.

Outcome

Use sensory terms.

Outcome Description

Students use words to convey images of the attributes selected for describing an entity, object, or sensory experience. These words convey the images through and to the five senses.

The writer helps the reader see the entity, object, or sensory experience by using words that create visual images (e.g., grass-green is a visual image that may describe the color of a coat); helps the reader hear by using auditory images (e.g., clanging is an auditory image that describes the sound of a bell); helps the reader smell by using olfactory images (e.g., smokey is an olfactory image that may describe the smell of the air on an autumn day when leaves are burned); helps the reader taste by using gustatory images (e.g., buttery is a gustatory image that may describe popcorn); helps the reader feel (here referring to the sense of touch rather than to the emotions) by using tactile images (e.g., scratchy is a tactile image that may describe wool cloth).

Outcome

Use connotative language.

Outcome Description

Students use connotative language to affect the audience by the tone or implications of that language. This outcome entails the selection of words with negative/positive connotations over their synonyms that do not create the desired effect.

Connotative terms have affective implications beyond their denotative meanings; e.g., in translating descriptive or narrative content, the writer might use the term shack rather than house to create a negative picture/impression for the audience; in translating evaluative content, the writer might use the term politician rather than public servant to influence the audience toward a negative view of the referent for the term. (Classificatory writing is characterized by denotative rather than connotative language to create a matter-of-fact tone.)

Outcome

Use appropriate formal/informal language.

Outcome Description

Students use formal or informal language in the appropriate situation. Use of formal and informal language is primarily an audience consideration. When the audience is well known to the writer, informal language is appropriate. When the audience is not (well) known by the writer, formal language is more appropriate. Status/age is also involved: Peers and those younger or of lower status may be addressed informally; those older or of higher status are addressed formally. The formal/informal distinction is particularly pronounced in letter writing: Business letters are formal; personal letters are informal. (Even the formats for the two kinds of letters differ to indicate this distinction.)

Informal writing frequently includes contractions and slang. Formal writing frequently includes technical words and other polysyllabic words of Romance origin. Informal language tends to be more direct, while formal language may use terminology that does not have strong connotations (e.g., lie vs. prevaricate).

Outcome

Use terms that convey emotions.

Outcome Description

Students use terms that most precisely describe the emotions (e.g., felt excited rather than felt good). The students' own emotions may be conveyed; however, the task often entails describing the emotions of other people.

Outcome

Use figures of speech.

Outcome Description

Students use figures of speech in translating discourse. In the composing situation, figurative comparisons are categorized under generating, although these figures may be relevant for translating. Figures that are appropriately categorized under translating rather than generating include rhetorical question, antithesis, ellipsis, and substitution (i.e., synechdoche and metonomy). For a discussion of these devices, see Humes and Cronnell (1977).

Outcome

Use sound devices.

Outcome Description

Students use sound devices through word selection in translating content. Sound is effectuated through such devices as alliteration (repetition of words with the same consonant sound), assonance (repetition of words with the same vowel sound), word repetition, and onomatopoeia (use of words that are echoic of a specific sound). Sound devices can contribute to the esthetic effect of discourse, attract attention to elements of discourse, and emphasize ideas or themes.

COHERENCE

Outcome

Use a consistent point of view.

Outcome Description

Students use a consistent point of view in translating content. The point of view is consistent when the voice of the "storyteller" remains the same person throughout the text, either author or character; however, a change in the point of view may be purposeful.

Outcome

Use coherence devices.

Outcome Description

Students use coherence devices in translating content. Coherence devices are techniques for connecting ideas (Larson,

1979); these devices tie separate parts into a unified whole by indicating specific relationships between ideas. Five types of these cohesive devices are delineated by Halliday and Hasan (1976). They include reference, substitution, ellipsis, conjunction, and lexical devices.

A reference device indicates that information must be located in another word or words in order to determine the meaning of the term used. Reference devices include personal pronouns (e.g., I, she, they), demonstratives (e.g., this, that, those), and comparatives (e.g., differently, similar, equally).

Substitution is the replacement of one item with another. Substitutions include nominals (e.g., one), verbals (e.g., do so), and clausals (e.g., so--Is she home? I believe so).

Ellipsis is the omission of an item. Omitted elements may be nominals, verbals, and clauses.

Conjunction devices are connectives that indicate a specific kind of relationship. They include additives (e.g., also), adversatives (e.g., instead), causals (e.g., consequently), temporals (e.g., then), and continuatives (e.g., anyway). Palacas (1979) charts an extensive set of sentence connectives; see Figure 6.

Lexical devices consist of word patterns. One subset of this category consists of reiterations (the repetition of a lexical item): the same words, synonyms, superordinate terms (e.g., dog for Collie), and generals for specifics (e.g., thing). Another subset of lexical devices is collocation, which is the regular co-occurrence of lexical items (e.g., snow and sledding).

CONNECTION TYPES	WITHIN-SENTENCE CONNECTIVES (Coordinators and subordinators)	ACROSS--SENTENCE CONNECTIVES ("adverbial conjuncts")
ADDITION	and	And, Also, Further, Furthermore, In addition, Moreover
SIMULTANEOUS STATE or EVENT	and, as, when, while, during	Meanwhile, At the same time, Simultaneously
SEQUENTIAL POSITION	and, and then, before, after, once, when, as soon as	First, Then, And then, Thereupon, Next, Finally, Earlier, Previously
ENUMERATIVE POSITION	---	First, Second, Secondly, In the second place, Last, Finally
ILLUSTRATION	such as, like, namely	For example, For instance, To illustrate
RESTATEMENT	since, as	In other words, That is, Again, Thus
EXPANSION	---	In fact, Indeed
CONTRAST	and, but, yet, only, though, although, whereas, while	In contrast, At the same time, But, However, On the other hand
CONCESSIVE OPPOSITION	but, yet, only, though, although, whereas, while	Even so, At the same time, In spite of this, For all this, Nevertheless
CONCESSION	---	To be sure, Admittedly
OPPOSITION	but	On the contrary, Rather, Instead
CAUSE and REASON	for, because, since, in that	After all, For
EFFECT (RESULT)	and, so, so that	As a result, Consequently, Therefore, Hence, Thus, Accordingly, So
CONCLUSION	so, so that	Consequently, Therefore, Hence, Thus, Accordingly, So
SUMMATION	---	In conclusion, To sum up, All in all, On the whole, In brief
PURPOSE	so, so that, to, in order that, in order to	For this purpose, To this end, To do this
DIGRESSION	---	Incidentally, By the way--To return
CHOICE	or, either...or, nor, and neither	Or, Otherwise
COMPARISON	and, and...too, just as	Likewise, Similarly, Too
	-er than, more than	---
	as if, as though	---
CONDITIONAL	and, if...then	---
	when, in case, whenever, unless	Otherwise

Figure 6. Palacas' (1979) Sentence Connectives (p. 195)

FORM

Outcome

Use a variety of sentence structures and lengths.

Outcome Description

Students use a variety of sentence structures and lengths. Paragraphs written with sentences of the same structure and length tend to be monotonous and stylistically uninteresting. They also tend to attract attention to the syntax rather than to the meaning. Structure and length can be varied in a number of ways; a few types of variations are listed below:

1. transformations; e.g., active-passive, movement (i.e., moving clauses and phrases from final to initial sentence position, and vice versa)
2. coordination; e.g., joining independent sentences/clauses with and, or, but, frequently with deletion of repeated words
3. subordination; e.g., converting independent sentences/clauses into relative clauses or adverbial clauses
4. simple sentences.

A variety of techniques can be used to improve the quality of syntax. These include Christensen's (1968 and 1978) techniques of generative rhetoric, as well as modeling and sentence combining. For a discussion of these techniques, see the Appendix.

Outcome

Use correct grammar.

Outcome Description

Students use correct grammar in translating content.[6] Some of the important component skills are listed below:

Use singular and plural nouns correctly.
Use correct word order.
Use sentences in which the subject and verb agree.
Use nominative and objective forms of pronouns appropriately.
Use regular and irregular verb forms appropriately.
Use past and past participle forms of verbs appropriately.
Use comparative and superlative forms of adverbs and adjectives appropriately.
Use complete sentences as opposed to fragments and run-ons.[7]

For a description of each of these skills, see Humes et al. (forthcoming c). For a discussion of the literature on the relation of grammar to sentence-combining practice, see Lawlor (1980).

Outcome

Use correct capitalization.

Outcome Description

Students use correct capitalization to mark sentence beginnings, sentence segments, and certain classes of words.[8] Some of the important capitalization skills are listed below:

Capitalize names of persons and the personal pronoun I.
Capitalize first word of sentences.
Capitalize months, days, streets, cities, states, special days or holidays, countries, non-personal proper names.
Capitalize greeting and complimentary closing of a letter.
Capitalize first letter in personal titles.
Capitalize initials in names of persons, and abbreviations for days, months, and streets.
Capitalize first word in dialogue quotations.

For a description of each of these skills, see Humes et al. (forthcoming a). For a discussion of capitalization and its instruction, see Cronnell (forthcoming a).

Outcome

Use correct punctuation.

Outcome Description

Students use correct punctuation in translating content.[9]

Some of the important punctuation skills are noted below:

Use a period to end a declarative or imperative sentence.
Use a question mark to end an interrogative sentence.
Use an exclamation point to end an exclamatory sentence.
Use a comma when writing the date.
Use a comma between city and state.
Use a comma to separate items in a series.
Use periods at the end of abbreviations and initials.
Use apostrophe in possessive forms.
Use apostrophe in contractions.
Use comma, terminal punctuation, and quotation marks in dialogue quotations.
Punctuate the greeting and complimentary closing of personal and business letters.

For a description of each of these skills, see Humes et al. (forthcoming a). For a discussion of punctuation and its instruction, see Cronnell (forthcoming b).

Outcome

Use correct spelling.

Outcome Description

Students spell correctly in translating content.[10] Important spelling skills are noted below:

Spell initial consonants.
Spell medial consonants.
Spell final consonants.
Spell consonant clusters.
Spell consonant digraphs.

Spell one-letter vowels.
Spell vowel digraphs.
Spell vowel-consonant-e patterns.
Spell schwa sound and endings with schwa.
Spell irregular words.
Spell compound words.
Spell homophones.
Spell affixes.
Use affixation processes.

For specific spellings, see Humes et al. (forthcoming b). For specific irregular words, compound words, and homophones, see Humes et al. (forthcoming b) and Rhode and Cronnell (1977). For specific affixation processes, see Humes et al. (forthcoming b) and Russell (1975).

Outcome

Use manuscript and/or cursive form.

Outcome Description

Students write in manuscript or cursive form while translating content.[11] Manuscript form includes the basic skills generally required by all schools; it is sometimes called "printing." Cursive form is generally taught at higher grade levels after manuscript forms are mastered. If discourse is to be read by persons other than the author, the text should be legibly written unless it is transcribed on a typewriter.

Outcome

Use margins and indent first word of paragraphs.

Outcome Description

Students use a discernible margin in writing and indent the first word of paragraphs. Although exact measures for margins are sometimes specified, obvious and relatively consistent spaces at the edges of the paper comprise the constraints of this skill. The first word in an indented paragraph begins a few spaces to the right of subsequent lines.

Reviewing

Reviewing includes activities such as scanning a text to determine where one is in relation to a preconceived arrangement for the discourse or to familiarize oneself with the already translated text; it more frequently involves judging whether (1) to do further setting of goals or further generating and arranging of new text, (2) to change existing text, or (3) to exit from the process--to stop writing because the discourse is both complete and satisfactory. All knowledge, skills, and techniques applied during setting goals, generating, arranging, and translating serve here as guidelines to measure the success of the translated text.

The outcome below pertains specifically to the process of reviewing.

Specifications

Outcome

Use a heuristic probe to review discourse.

Outcome Description

Students use a heuristic probe to review discourse. The following probe is a modified version of evaluative statements cited by Bereiter, Gartshore, Cattani, and Scardamalia (1980) as a monitoring system:

1. Will people see why this is important?
2. Will people believe this?
3. Will people be interested in this part?
4. Will people understand what I mean here?
5. Is this good?
6. Is this sentence useful?

7. Can this be said more clearly?

8. Am I getting away from the point?

9. Does this sound right?

10. Shall I leave it this way?

11. Should I give an example/illustration/anecdote, etc., here?

12. Should I take this part out?

13. Should I cross out this sentence and say it in a a different way?

14. Shouldn't I say more?

15. Should I change the wording?

Changing

This element of the composing process is characterized by writing behavior that entails "changing one's mind" as well as changing the text. Changing the content or arrangement occurs when the writer reviews the text and sees mismatches between his/her intended solution of the composing problem and the actual resolution incorporated in the text. For instructional purposes, this changing affects existing content rather than non-translated plans.

All knowledge, skills, and techniques applied during setting goals, generating, arranging, and translating are implemented here to change the text.

For a comprehensive discussion of the literature on changing, see Gentry (1980).

Feedback

Flower and Hayes (1980) say that the task environment of the composing situation should include all "those things outside the writer's skin" (p. 7). Thus feedback is part of the task environment of an instructional model, although it is optional because a writer may or may not receive feedback on his/her discourse.

Feedback includes peer critiquing, teacher comment, and formal assessment. Peer critiquing is currently recommended as an important feedback procedure for many reasons. "Peer evaluation offers each student an opportunity to observe how his or her writing affects others" (Beaven, 1977, p. 150). It can also build self-confidence (Mueller, 1979). It may even provide insight about writing techniques by establishing "a consensus about some objective aspects of writing and . . . those aspects that involve individual value judgments" (Moffett, 1968, p. 194). Peer critiquing has disadvantages as well: It is time consuming, the interpersonal skills it requires take time to develop, and teachers may not trust group processes (Beaven, 1977).

Teacher comment is another form of feedback. Appropriate teacher comment focuses on teaching, not testing (Lawrence, 1972), and thus may or may not be evaluative. Teacher comment assists the student "by asking questions, by offering suggestions and resources for the student's further investigations" (Draper, 1979, p. 4). Graves (1978) suggests a process-conference approach to teacher comment so that students do not see a composition "as something that can be 'wrong.' It can only be unfinished" (p. 22).

The third kind of feedback is formal assessment. To it Lloyd-Jones (1978) assigns the awesome task of being the point where research and scholarship should meet. The most valid and reliable instrument for formal assessment of writing includes a writing sample (Noyes, in Kinneavy and Kline, 1976, and Alloway, 1980). Thus writing-sample assessment is specified also here. For a complete discussion of an appropriate method of assessment with writing samples, see Humes (1980a).

FOOTNOTES

[1]This figure includes personification, a specific type of metaphor.

[2]Many authorities cite the advantages of freewriting (e.g., Draper, 1979; Irmscher, 1979). Popham (1980) attributes a number of ameliorative effects to freewriting techniques; e.g., it frees students from writer's block, gives practice in putting words together, accustoms students to the physical act of writing, makes students aware of different forms of writing, and helps students generate ideas that can be turned into a formal essay.

[3]Pike (1959) describes a four-part heuristic derived from the particle-wave-field theory:

> 1. Consider a object or experience as an individual, self-contained unit (a tree, a building, a person);
>
> 2. Consider it as it relates to the things immediately around it (a variation of 1, inviting comparison or contrast);
>
> 3. Consider it over a period of time (changing, maturing, dying);
>
> 4. Consider it as part of a larger context or system (historically, sociologically, aesthetically). (p. 90)

Corder (1979) describes the use of the particle-wave-field heuristic, through an example--the description of a shoe. It is presented below:

> . . . What happens if you look at the shoe
>
> as if it were <u>static</u>, a thing complete in itself, of interest to you only in its present form? When you look at a shoe as a static thing, you must consider its shape, size, design, color, marks created as part of a design, marks created by use and wear, the materials of which it is made.
>
> But then suppose you look at the shoe as part of a <u>dynamic</u> process. You are no longer particularly interested in the same features, but must see the shoe as a part of a process that changes in time or space or in your way of perceiving it. Looking at the shoe in this way may lead you to notice

> carefully the signs it shows of wearing; when you see the shoe in this way, the shoe as it is in the present is simply an instant in a process of aging. Or you might see the shoe as part of a process of crafting or manufacturing. Or you might see the shoe as the present moment's example out of a history of shoe styles that you have tried and discarded--and that may even show you a way of writing about yourself.
>
> Finally, try looking at the shoe as part of a field of similar or related experiences. The shoe then becomes an example in the field of shoes, which would include different types of footwear for different purposes and occasions and different styles of design. Or you might see the shoe in a larger field, as an example of a certain kind of fashion, which could lead you to observations about, for example, a whole fashion with its preferences in color, shape, design, texture, and composition. (pp. 21-22)

Another example of the particle-wave-field technique helps illustrate its purported usefulness. Odell and Sage (1978, p. 2) exemplify its use in describing a woman:

> Particle: She is classified by her appearance: She is a woman of sophistication. Her dress is that of an aristocrat.
>
> Wave: She is located in a sequence of actions: A journey from one point to another.
>
> Field: She is contrasted (a) with other women "of her sort" (p. 2) (b) between her present surroundings and past surroundings (c) what she does and what she might do.

Young, Becker, and Pike (1970) delineate a complex form of the particle-wave-field probe for which each of the elements is further divided by particle-wave-field. It is displayed in Figure 7.

Kneupper (1980) offers a revised system with "static" and "process" on the vertical axis and "contrast," "as a System," and "in a System," on the horizontal axis. It is displayed in Figure 8.

[4]Constructing analogies is one of the three elements of Rohman's (1965) invention technique called "Prewriting." The other two elements are journal keeping and meditation.

[5]In a figurative comparison, the primary comparison element (see C_1 below) is related to the subject of the discourse. The secondary comparison element (see C_2 below) is brought into the content solely to indicate the attribute it shares with the primary element. The attribute (see A below) shared may be explicit or inferred.

	Contrast [particle]	Variation [wave]	Distribution [field]
PARTICLE	1) View the unit as an isolated, static entity. What are its contrastive features, i.e., the features that differentiate it from similar things and serve to identify it?	4) View the unit as a specific variant form of the concept, i.e., as one among a group of instances that illustrate the concept. What is the *range* of physical variation of the concept, i.e., how can instances vary without becoming something else?	7) View the unit as part of a larger context. How is it appropriately or typically classified? What is its typical position in a temporal sequence? In space, i.e., in a scene or geographical array. In a system of classes?
WAVE	2) View the unit as a dynamic object or event. What physical features distinguish it from similar objects or events? In particular, what is its nucleus?	5) View the unit as a dynamic process. How is it changing?	8) View the unit as a part of a larger, dynamic context. How does it interact with and merge into its environment? Are its borders clearcut or indeterminate?
FIELD	3) View the unit as an abstract, multidimensional system. How are the components organized in relation to one another? More specifically, how are they related by class, in class systems, in temporal sequence, and in space?	6) View the unit as a multidimensional physical system. How do particular instances of the system vary?	9) View the unit as an abstract system within a larger system. What is its position in the larger system? What systemic features and components make it a part of the larger system?

Figure 7. Young, Becker, and Pike's (1970, p. 127) Expanded Form of the Particle-Wave-Field Probe.

	Unit in Contrast	Unit as a System	Unit in a System
S T A T I C	View the unit holistically as an undifferentiated, isolated entity. What feature(s) serve to differentiate the unit from other similar things?	View the unit as composed of separable component parts. What are the components of the unit? How are the components organized in relation to each other? What is the structure of the system?	View the unit as part of a larger system. What are the other components in the larger system? How are these components organized in relation to each other? What is the structure of the system?
P R O C E S S	View the unit as a dynamic process, object, or event. What process of change occurred to create the unit? How is it changing currently? What will happen to it in the future? What feature(s) serve to differentiate the unit from similar processes, objects, or events?	View the unit as composed of dynamic, separable component parts. How were the parts formed? What will happen to each in the future? Do different parts change at different rates? What does change in a particular part do to the overall system? How is the structure of the system changing?	View the unit as a dynamic part of a larger dynamic system. How was the larger system created? How is it currently changing? What will happen to it in the future? How does change in the larger system affect the unit? How does change in the unit affect the larger system? How is the structure changing?

Figure 8. Kneupper's (1980, p. 165) Revised Form of the Particle-Wave-Field Heuristic.

Similes characteristically begin with word signals (see S below). Frequently used signals include as (or as...as) and like; the word than is also a signal which co-occurs with a comparative term (e.g., faster than) that expresses the quality which is attributed to the entities being compared:

A kite is [like] a colorful bird.
C_1 S C_2

The daisies in the field are fresh [as] morning.
C_1 A S C_2

The cow was [as] fat [as] a blown-up balloon.
C_1 A C_2

Kim is taller [than] a pine tree.
C_1 A S C_2

A similar figurative comparison that can generate content is metaphor. A metaphor may clarify the concept or enhance the description of an entity, object, or sensory experience. Metaphors differ from similes in that they are not explicit comparison--metaphors do not have signal words such as like, than, as. An analogy is a kind of extended metaphor that also generates content; with analogy, more than one feature is compared.

[6]The frequently quoted statement from Braddock, Lloyd-Jones, and Schoer (1963) is that "The teaching of formal grammar has a negligible or, because it usually displaces some instruction and practice in actual composition, even a harmful effect on the improvement of writing" (p. 37). Correspondingly, many authorities decry the practice of teaching formal grammar as an aid to writing (e.g., Thomas, 1980; Winterowd, 1975 and 1980; Moffett, 1968). Their position is that grammar is something that is learned naturally and is properly mastered by the time a child enters school. Such authorities suggest that sentence combining will provide students with any grammar they haven't mastered because it is actual language experience.

Conversely, Mellon (1978) cites a recent Australian study that indicates that grammar study is beneficial for the study of writing. Additionally, some authorities support its teaching (e.g., Graff, 1980; Hirsch, 1977). Hirsch (1977) says that "while such intervention can be harmful, its potential for good includes the benefit of instruction in a classless, transdialectal instrument for communication between social and regional groups" (p. 45). In working with basic writers, Graff (1980) finds that when traditional grammar skills are not taught, "Students and parents complain that they are being patronized, that the more relaxed, more personalist pedagogy fails to teach anybody how to write" (p. 852).

Some authorities compromise by promulgating instruction on tagmemic grammar or on sector analysis grammar rather than on traditional grammar.

[7]Kagan (1980) analyzed run-on and fragment sentences and found that 65% of boundaries mistaken for the ends of sentences fell immediately after prepositional phrases. This finding suggests that instruction on writing complete sentences should focus on this structure/position in the sentence.

[8]Some authorities recommend sentence-combining practice and practice in changing text as appropriate instruction/practice on capitalization skills.

[9]According to some authorities, correct use of punctuation is possible without the ability to recite rules of punctuation (e.g., Irmscher, 1979). Shaughnessy (1977) states that "the study of punctuation ought to be the study of sentence structure, not merely a definition of the marks themselves" (p. 40). Correspondingly, some authorities assert that modeling teaches punctuation. Others believe that sentence-combining practice will instill in students the correct use of these marks (e.g., Hunt, 1979). Moffett (1968 and 1976, with Wagner) believes that writing dialogue teaches students correct punctuation, while others advocate an explicit presentation of the rules. Irmscher (1979) suggests that presenting students with a chart similar to the one in Figure 9 below will help them master correct punctuation.

To terminate and separate	To combine and separate*	To introduce	To enclose
period			
exclamation point			
question mark			
	comma	comma	commas
	semicolon		
	colon	colon	
	dash	dash	dashes
			parentheses
			brackets
			quotation marks
	hyphen (compounds)		

*Some text writers try to distinguish between a combining function and a separating function. The distinction is a fine one. I have chosen to interpret certain uses of the comma and semicolon as both combining and separating. The writer may choose to combine two sentences because they are closely related, but separate them with a semicolon to mark the juncture. A writer less concerned about the combining function would use a period.

Figure 9. Chart for Teaching Punctuation (Irmscher, 1979, p. 122).

[10]Some authorities believe that the ability to spell correctly permits students to use a greater variety of words in their writing and thus to produce compositions that are more likely to be judged as effectively written (e.g., Rentel, King, and Pappas, 1979). Shaughnessy (1977) thinks students should learn to recognize misspellings during the proofreading process. However, once they have reached this state, she believes they should be taught basic spelling operations. Conversely, Graves (1978) says, "When children write early, their experiments with sounds and symbols produce spellings that may not be entirely accurate, but research shows that if these children continue to have ample opportunities to write they gradually increase in spelling power" (p. 10).

[11]Although many authorities criticize conscious attention to these mechanical processes, particularly to letter formation and alignment, others feel that lack of handwriting ability will impede the writing process. Shaughnessy (1977) says that ". . . as long as the so-called mechanical processes are themselves highly conscious or even labored, the writer is not likely to have easy access to his thoughts" (p. 14). Shaughnessy claims that the answer to this is "practice--writing and more writing . . . until the pen seems a natural extension of the hand . . ." (p. 16).

APPENDIX

The literature suggests that certain instructional techniques have ameliorative effects on the mastery of specific compositional competencies. Among these techniques are sentence combining, idea combining (which is an extension of sentence combining), Christensen's (1968 and 1978) generative rhetoric program, and modeling. These techniques are discussed below.

Sentence Combining

The technique of sentence combining should be a part of any program that teaches the composing process (e.g., Hunt, 1979; Mellon, 1978 and 1979; Winterowd, 1980). Furthermore, research indicates, according to Hunt (1979), that instruction can be implemented at the early and middle grades as well as at the college level. A number of studies suggest that sentence combining may enhance syntactic fluency according to measures described by Hunt (1965) and developmentally traced by Loban (1976) (e.g., Combs, 1976; Faigley, 1979; Gebhard, 1978; Mellon, 1969; Morenberg, Daiker, and Kerek, 1978; Obenchain, 1979; O'Hare, 1973; Swan, 1979). See Lawlor (1980) for a review of sentence-combining studies.

Sentence-combining research stems from examinations of the effects of instruction on transformational grammar in relation to mastery of a variety of syntactic structures (e.g., Bateman and Zidonis, 1966). The technique itself has evolved from the experimental exercises of Mellon (1969) to the relatively sophisticated instruction of Daiker, Kerek, and Morenberg (1979).

Mellon's (1969) exercises focused on nominal and relative transformations. The exercises indicate the slot where nominal embedding should

occur with the cue word "SOMETHING"; the type of transformation was cued with words/abbreviations within parentheses after the sentence (e.g., T [for transformation]: fact). The combining problem (A) and its solution (B) are illustrated below:

A. SOMETHING used to anger Grandfather to no end. (T:exp)
SOMETHING should be so easy. (T:fact--T:exp)
The children recognized SOMETHING. (T:infin)
SOMETHING was only a preliminary to SOMETHING sometime. (T:wh)
He insisted SOMETHING. (T:gerund)
They had had enough peppermints. (T:fact)
He gave them still another handful. (T:gerund)

B. It used to anger Grandfather no end that it should be so easy for the children to recognize when his insisting that they had had enough peppermints was only a preliminary to his giving them still another handful. (pp. 96-97).

Exercises developed by O'Hare (1973) for his sentence-combining study also used the word "SOMETHING" to signal the nominal embedding slot. However, O'Hare replaced the parenthesized grammatical terms with cue words (e.g., <u>that</u>, <u>how</u>) and word parts (e.g., <u>'s</u>, <u>ing</u>). Additionally, O'Hare underlined words to be embedded into the preceding sentence. These tactics are exemplified by the combining problem (A) and the solution (B) below:

A. SOMETHING angered Mr. Mulvaney.
Miss Frickert insisted SOMETHING. ('S + ING)
There were spooks in the house. (THAT)
She had just rented the house. (WHICH/THAT)
Mr. Mulvaney is <u>the policeman on our block</u>

B. Miss Frickert's insisting that there were spooks in the house (which/that) she had just rented angered Mr. Mulvaney, the policeman on our block. (p. 89)

In his textbook, <u>Sentencecraft</u>, O'Hare (1975) presents similar practice items:

The contestants know only SOMETHING.
They will be asked SOMETHING. (THAT)
They are someone. (WHO)
They live somewhere. (, WHERE)
They were born sometime (, WHEN)
They've entered for some reason. (, AND WHY) (p. 44)

Some sentence-combining textbooks have eliminated the embedding slot and the cue to the transformation type, as is illustrated in this item from Strong (1973);

> The ashtray squats.
> The ashtray is fat.
> The ashtray is ugly.
> The ashtray is in the middle of the table. (p. 13)

A current textbook, favorably reviewed in the literature (Butturff, 1979b; Rossi, 1980), is that of researchers Daiker, Kerek, and Morenberg (1979). Their exercises are also uncued, but initial practice on a type of embedding/transformation is prefaced with a model. However, Daiker et al. (1979) use grammatical terms in the instruction preceding the model-cued exercises.

Instruction in sentence combining may be introduced with cued exercises, with subsequent instruction moving incrementally toward uncued practice. Using both cued and uncued exercises is justified because, according to Strong (1979), research now supports the effectiveness of both approaches.

Although sentence combining is generally advocated with enthusiasm as an appropriate instructional technique for composition, a few authorities have evidenced either only qualified support of or serious reservations about sentence combining (e.g., Moffett, 1968; de Beaugrande, 1977). Kinneavy (1979) questions whether the positive results from sentence-combining studies may be a product of the increased writing practice that experimental groups receive over control groups rather than an effect of the technique itself. Barabas (1980) fears that sentence-combining practice may give students the view that writing "is essentially a mechanical manipulation of parts strung together to achieve some coherent whole, a view caricatured by the fantastic language machine of the Laputian projectors in Book Three of Swift's Gulliver's Travels" (p. 2).

This concern may be a reaction to the emerging tendency to view sentence combining as a panacea--it alone can solve "the writing problem." Hunt (1979) intensifies authorities' apprehension when he panygyrizes sentence combining by transforming a warning voiced earlier by Strong:

> In that world of unverified opinions, one can even hear William Strong, author of the very successful SC exercises used in the Miami University study, say aloud, "In no sense then, is sentence combining a comprehensive writing program in and of itself. It can be a part of a well-articulated program, but common sense suggests that it can't be the one and only instructional strategy. That would be sheer lunacy" . . .. In the new world here today, where an important verification has just occurred, we must revise that statement to read, "In every sense, sentence combining can be a comprehensive writing program in and of itself, for at least one semester. It is nonsense, rather than common sense, to suggest that SC can't be the one and only instructional strategy, at least for one term. To doubt the sufficiency of sentence combining is sheer lunacy." (p.156)

The "panacea" view of sentence combining is further evidenced by the wide spectrum of skills and knowledge purported to be taught indirectly through sentence-combining practice in addition to its primary purpose--to enhance syntactic fluency:

> Audience awareness (e.g., Butturff, 1979 a)
> Style (e.g., Strong, 1979)
> Paragraph building (e.g., Strong, 1979; Daiker, Kerek, and Morenberg, 1979)
> Generating content (Butturff, 1979a; Obenchain, 1979)
> Changing content (e.g., Daiker, Kerek, and Morenberg, 1979; Strong, 1979; Yearwood, 1979; Larson, 1979)
> Establishing coherence, emphasis, and tone (e.g., Daiker, Kerek, and Morenberg, 1979)
> Vocabulary (e.g., Daiker, Kerek, and Morenberg, 1979)
> Mechanics (e.g., Strong, 1979; Obenchain, 1979; Daiker, Kerek, and Morenberg, 1979)
> Spelling (e.g., Obenchain, 1979)

However, the progenitor of sentence combining himself, John Mellon (1979), cautions against an overzealous substitution of sentence combining for other types of writing instruction:

> . . . we are now seeing the development of composition courses consisting entirely of sentence combining . . .. While I certainly do not regard this as unhealthy, . . . I nonetheless think we must recognize the limits of what sentence combining can do . . .. I cannot see how it might assist the process that transforms intention into conception, that is, the process of discovering and/or collecting ideas. To say the same thing in classical terms, sentence combining covers arrangement and style but not invention. Accordingly, I would be extremely uneasy about any non-remedial expository writing course, whether in the senior high school grades or the college freshman year, that did not specifically aim to teach invention and the concepts of argument . . .. And I suspect that a large majority of writing teachers would share my uneasiness. Similarly, no matter how much better the writing in an all-sentence-combining class, compared holistically with that in a traditional class, I would have to assume it could be better still were the sentence-combining lessons paired with lessons on invention and the structure of argument. (p. 29)

Another concern is that emphasis on sentence combining may effectuate a complexity that negatively affects the readability of a text. Kinneavy (1979) voices this concern:

> Anyone who has worked with readability formulas and knows anything about syntactic fluency is aware that there are overlapping concerns. McLaughlin's smog formula . . ., for example, is based on number of words per sentence and number of words containing three or more syllables. The readability people are generally concerned with lowering the number of words per sentence to a readable level, given the assumption that many of the sentences of modern prose are entirely too complex and too long. Yet increasing length and complexity of sentence structures is an avowed goal of many sentence combiners.
>
> The problem came home to me in a dramatic manner at a symposium on technical writing we had at The University of Texas at Austin. One advocate of sentence combining made the suggestion that sentence combining could be of singular assistance in teaching technical writing (an

> assumption seemingly made by a paper at this conference also). John Walter, the co-author of the most widely used and widely respected text in technical writing, strongly disagreed. At nearly every firm for which he has served as a consultant in the last twenty years, said Walter, the problem was nearly always to teach writers at that level to simplify and shorten their sentences. In other words, syntactic complexity is not a norm which is indefinitely positive. (p. 70)

Because sentence-combining practice effectuates complexity and density, instruction on some principles of readability should accompany sentence-combining practice; students should be made aware of options that affect readability. Students can then make informed choices about constructing or changing specific syntactic structures.

Readability is important as an audience concern (Bazerman, 1980). Hirsch (1977) asserts that readability is important because the reader "wants to understand with as little energy as possible" (p. 11). A study by Wanat (in Schallert, Kleinman, and Rubin, 1977) supports the notion that more energy is expended on text that is difficult to read. Wanat's subjects evidenced more regressive eye movements when texts did not meet expectations.

Readability is not defined here in terms of number of words and syllables as it is in standard formulas used to determine the grade level of textbook material. Rather, it is defined in Hirsch's (1977) terms:

> the speedy resolution of semantic-syntactic ambiguity and the speedy fulfillment of semantic-syntactic expectations . . .. (p. 62)

While acknowledging that the writer may sometimes wish to compose an unreadable or a difficult-to-read text, Winterowd (1980) advocates instruction on readability as a complement to sentence-combining practice. He cites these principles:

1. The structure of sentences is more important in readability than length.

2. Delay in semantic closure decreases readability.

3. Adjective clauses are more readable than preposed adjectives.

4. [In general] those sentences in which subject and agent are identical are more readable than those in which subject and agent do not coincide.

5. Verbals are more readable than nominals.

6. Unreversible passives are easier to read than those that are reversible.

Williams (forthcoming) delineates the following criteria of readable style:

1. Verbs rather than other parts of speech express action.

2. Agents and subjects co-occur.

3. Goals and objects co-occur.

4. Relatively few words end with nominalizing suffixes (e.g., -ness, -ment, -ity).

5. Relatively few prepositional phrases, particularly those with of, occur.

6. Few empty verbs (e.g., be, have, do) occur.

7. Relatively few sentences are passives.

8. Relatively few sentences begin with there is/there are.

Additionally, difficult-to-read styles are characterized by these features:

1. A lack of action

2. Redundancy

3. Meaningless modifiers (e.g., kind of, really)

4. Wordiness that reflects (a) obvious complications, (b) excessive detail, (3) lexical expansion (e.g., the thing to do before you do anything else rather than first).

5. Hedges and emphatics

6. Wordy sequencers and logicalizers

7. Negatives rather than positives

8. Suspension of semantic closure

Studies have been designed to determine what structures either increase or decrease readability (e.g., Nystrand, 1979; Berdan, Coots, and Snow, 1979). Findings of such studies should be considered in the design of instruction on readability.

Idea Combining

Idea combining is an extension of sentence combining. It is described by Barabas (1980) as a

> strategy which uses sentence combining techniques in conjunction with a heuristic to generate and develop an increasing complexity of both structure and idea. It is a way of synthesizing syntax and meaning in an effort to provide at the sentence/thesis level the link between thought and expression (p. 4) . . ..
>
> In terms of idea combining, . . . heuristic patterns can serve a syntactic function, and syntactic patterns can serve a heuristic function. Or, put more simply, idea generates form, and form generates idea (p. 5).

Barabas ados that this technique is intended for those students who have had practice in sentence combining. One of the simpler levels of exercises is exemplified below:

Model #1 Heuristic signals + connecting word signals

Example 1

Given: subject (who/what) and focus (what)

WHY (because) _____ and WHY _____

WHO/WHAT (subject) our country ought to explore alternative sources of energy WHAT (focus)

HOW (by) _____.

Possible completion:

Because of the dangers and costs of nuclear power plants, our country ought to explore alternative sources of energy by investing federal money in research.

(p. 4)

A more advanced exercise is exemplified below:

Model #2 Blank heuristic signals

Example 1

WHAT (subject) Writing QUALIFICATION _____

WHAT (focus) _____ HOW _____ HOW _____

WHY _____

Possible completion:

Writing, although it may never become easy for most people, can become more purposeful if one first decides upon a specific purpose and audience, for these two are what really determines content and style.

Example 2

WHY	WHY	WHO/WHAT (subject)
WHERE	WHAT (focus) [verb] expensive	WHEN

Possible completion:

Because of inflation and declining enrollment, tuition at private colleges will be even more expensive this fall. (p. 11)

Christensen's Generative Rhetoric

Instruction in constructing cumulative sentences, as described by Christensen (1968, 1978), is recommended by some authorities for improving students' writing style (e.g., Popham, 1980). A cumulative sentence consists of a main clause (which may or may not have a preposed modifier), with postposed modifiers. Three types of cumulative sentences are specified: coordinate sequence, subordinate sequence, and mixed sequence (Christensen, 1978). These sequences are based on "four basic principles" (Christensen, 1968, p. 280):

> First, ADDITION. When you want to make a point in writing, you add. "The meaning is in the modifiers." . . . some of the added modifiers are embedded and some are free modifiers. The embedded modifiers are generally fixed in position . . .. The free modifiers are free partly in the sense that they can be moved about . . ..
>
> Second, DIRECTION OF MODIFICATION or DIRECTION OF MOVEMENT. When you add a modifier, you must add it before or after the head . . .. When you put the modifier before the head, the direction of modification is forward toward the head; when you place it after, the direction of modification is backward. Since in English both the base clause of the sentence and the base, or topic, sentence of the paragraph are usually at or near the beginning, the direction of movement is generally backward . . ..

> Third, LEVELS OF ABSTRACTION or LEVELS OF GENERALITY. The writer backtracks but at the same time he downshifts and goes over the same ground at a lower level of abstraction or generality--at the level of examples and details . . ..
>
> Fourth, TEXTURE. The texture of a piece of writing or of the style of a writer may be thin or dense or may move from one to the other. The texture varies with the frequency and kinds of free modifiers. (p. 280)

Christensen advocates the use of the cumulative sentence because professional writers (at least those whose styles he analyzed) use this structure frequently, and because, according to Christensen, it is more readable than other syntactic structures. This rationale is challenged by some authorities (e.g., Johnson, 1969). Christensen also claims that the cumulative sentence is a representation of the mind in the process of thinking, which makes it "natural."

The examples of the coordinate, subordinate, and mixed sequence sentences below are from Christensen (1968). The indentation indicates the level of coordination or subordination:

Simple coordinate sequence

1 He [Charles Fries] disliked what he considered the irrational prescriptions of traditional grammar,

2 its Latinate bias,

2 its neglect of speech for writing,

2 its semantic definitions of grammatical terms,

2 its neglect of linguistic form,

2 and its use of heterogeneous examples drawn indiscriminately from many sources . . ..

--James Sledd

(p. 253)

Simple subordinate sequence

1 But of course the real barriers to break down were those between the three major divisions of education,

2 the elementary, secondary, and university levels,

3 each of which tends to become a self-endorsed system,

4 congratulating itself on its virtues and blaming whatever deficiencies the educational process as a whole may have on the other systems.

--Northrop Frye

(p. 258)

Mixed sequence

1 This hostility toward inquisitorial processes is a good sign--

2 not that there's anything particularly devilish about census taking, but

2 just that it's a fine thing for people to get stirred up about their rights,

3 which otherwise tend to get nibbled away by the mice of time.

--E. B. White

(p. 264)

Christensen's principles are also applicable to paragraph construction: Content can be arranged into a sequence of sentences that are related by coordination and subordination. In such a paragraph, the first sentence is the topic or "top" sentence. Christensen (1968) says that this sentence is ". . . the sentence that the contents are comments on" (p. 251). The top sentence is comparable to the base clause of a sentence, so it can be called a "base sentence" (p. 251).

In a coordinate sequence paragraph, the second sentence comments on the first sentence, and all subsequent sentences are coordinate to the second sentence. The example below is of a coordinate sequence paragraph:

1 This is the essence of the religious spirit--the sense of power, beauty, greatness, truth infinitely beyond one's own reach, but infinitely to be aspired to.

2 It invests men with pride in a purpose and with humility in accomplishment.

2 It is the source of all true tolerance, for in its light all men see other men as they see themselves, as being capable of being more than they are, and yet falling short, inevitably, of what they can imagine human opportunities to be.

2 It is the supporter of human dignity and pride and the dissolver of vanity.

2 And it is the very creator of the scientific spirit; for without the aspiration to understand and control the miracle of life, no man would have sweated in a laboratory or tortured his brain in the exquisite search after truth.

--Dorothy Thompson
(Christensen, 1978, p. 81)

In a subordinate-sequence paragraph, the "top" sentence is commented on by the second sentence, and each subsequent sentence is subordinate to the one preceding it. The example below is of a subordinate-sequence paragraph:

1 The process of learning is essential to our lives.
2 All higher animals seek it deliberately.
3 They are inquisitive and they experiment.
4 An experiment is a sort of harmless trial run of some action which we shall have to make in the real world; and this, whether it is made in the laboratory by scientists or by fox-cubs outside their earth.
5 The scientist experiments and the cub plays; both are learning to correct their errors of judgement in a setting in which errors are not fatal.

6 Perhaps this is what gives them both their
air of happiness and freedom in these
activities.

J. Bronowski, The Common Sense of Science (Vintage), p. 11.
(Christensen, 1978, p. 82)

The mixed-sequence paragraph again has a "top sentence," but the subsequent sentences are both coordinate and subordinate. The example below is of a mixed-sequence paragraph.

1 The purpose of science is to describe the world in
an orderly scheme or language which will help us
to look ahead.
2 We want to forecast what we can of the future
behaviour of the world;
particularly we want to forecast how it would
behave under several alternative actions of
ours between which we are usually trying to
choose.
3 This is a very limited purpose.
4 It has nothing whatever to do with bold
generalizations about the universal
workings of cause and effect.
4 It has nothing to do with cause and effect at
all, or with any other special mechanism.
4 Nothing in this purpose, which is to order the
world as an aid to decision and action,
implies that the order must be of one kind
rather than another.
5 The order is what we find to work, conveniently
and instructively.
5 It is not something we stipulate;
it is not something we can dogmatise about.
5 It is what we find;
it is what we find useful.

J. Bronowski, The Common Sense of Science, pp. 70-71
(Christensen, 1978, pp. 90-91)

Modeling

Modeling is another technique recommended by a number of authorities (e.g., Gilbert, 1980; Irmscher, 1979; Schiff, 1978; Williams, 1979). Corbett (1976) suggests that sentence structure can be taught by modeling because students copy sentences that have distinctive stylistic features.

Mellon (1978) believes that modeling will continue to be an instructional technique because it has "stood the test of time" (p. 253). Kehl (1979) concurs, quoting Quintilian, the first-century Roman rhetorician:

> There can be no doubt that in art no small portion of our task lies in imitation, since, although invention came first and is all-important, it is expedient to imitate whatever has been invented with success. (p. 135)

Irmscher (1969) says that modeling is one of the fundamental means of learning:

> It is basic in learning penmanship, speech, languages, dance, painting--in fact, in learning numerous skills and arts. To be sure, imitation is associated with the beginning stages, particularly with childhood, but as an impulse it persists no less strongly in adults than in children, often, unfortunately, as a pressure toward dull conformity. In writing, it can also be an exercise that leads to sameness and leveling, or it can be a study that leads to discovery and invention. (p. 149)

Irmscher also believes that modeling practice helps students discover the importance of various elements of the composing process:

> In the process of imitating, a writer has to reverse the normal process; he has to begin with form and style and then find subject matter to fit. If he applies a grandiose style to a trivial subject--Milton's sentences to household hints--he ends up with a mockery of the style. If he applies a light style to a grand subject--Thurber's manner to the description of a disaster--he has something equally incongruous. Thus imitation makes clear, if the point is not already self-evident, that thought and feeling are the natural starting points of writing, form follows, style emerges. (p. 153)

Some studies have supported the ameliorative effects of modeling (e.g., Gilbert, 1980). Williams (1979) conducted a study that compared sentence combining and "imitation." Williams used three groups of students: One group received sentence-combining practice, one received

modeling practice, and a control group received "regular instruction."

He reports that

> Evaluators found significantly fewer flaws in logic, organization, and style among the imitators. This result supports the original thesis: When students are provided with model structures to impose on experience of their own devising, they will be better able to impose similar structures on self-generated content during real writing tasks; students who are provided with content in the form of kernel sentences and are expected to generate their own structures for that content will be less able to impose structures on their own content later (p. 37).

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